



Consolidated Annual Activity Report of the European Union Agency for the Space Programme – Year 2021

[in pursuance of Financial Regulation 2018/1046, Commission Delegated Regulation No 2019/715¹]

¹ Commission Delegated Regulation (EU) 2019/715 on the framework financial regulation for the bodies set up under the TFEU and Euratom Treaty and referred to in Article 70 of Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council (OJ L 122, 10.5.2019, p. 1).

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Administrative Board's analysis and assessment

2021 was the year of change for the Agency as the GSA officially became the European Union Agency for the Space Programme, EUSPA. This evolution came together with new tasks and responsibilities, such as promoting the Copernicus downstream data and services and coordinating the development phase of GOVSATCOM. Just after the Regulation entered into force, EUSPA started to hold a number of “opening” events to show how the newly established EU Space Programme and EUSPA will support European priority policies – from the Green Deal to digital transition. I was indeed also keen to continue reinforcing the relationships with the AB members through several dedicated workshops and other actions.

While the COVID-19 pandemic continued to spread throughout 2021, EUSPA operations remained intact. Thanks to the dedication of the EUSPA team, the Agency continued to deliver secure and performant EGNOS and Galileo services to an increasing number of users, in cooperation with the European Commission, the Member States, and the other European stakeholders. The necessary measures, proactively implemented, increased the resilience of operations at the Galileo and EGNOS operational centres in Europe and remote sites and contributed to the 24/7 service delivery.

Without being exhaustive, I will mention here some of the key milestones reached and some new initiatives launched within 2021:

- Commencement of the Galileo Open Service Navigation Message Authentication (OSNMA) public observation phase and publication of the High Accuracy Service Info Note.
- Over 2.5 billion Galileo users reached and the number keeps rising fast
- Galileo and EGNOS ground segment updates
- Various news initiatives such as the #myEUSpace competition, CASSINI, Space CrossRoads, targeting all EU Member States to ensure equal opportunities for access to EU Space.

I am sure, that under EUSPA's extended mission and by working together with all actors across the board we will find innovative ways to connect with new users in the GNSS, Earth Observation, and governmental satellite communications. We should not forget that EUSPA is also a platform of knowledge sharing, GNSS expertise, and space market intelligence for all EU actors.

In conclusion, I would like to thank the EUSPA Executive Director, Rodrigo da Costa for his commitment and hard work. Under his leadership, I am confident that EUSPA will continue to thrive. For any challenges, he

can rely on an excellent team of professionals and the support of the EUSPA Administrative Board. Thanks to the collaboration between all the stakeholders, we will ensure the success of the EU Space Programme for the EU as a whole and in all Member States.

Václav Kobera

Chair of the Administrative Board, European Union Agency for the Space Programme

Note by the Chair of the Security Accreditation Board

The security accreditation activities for the Space components progressed based on the Programme milestones and specified by the Programme in the Security Accreditation Milestone (SAMS) document. After the difficulties in 2020 due to the pandemic crisis, in the second part of 2021, the SAB and its special subordinate bodies had the possibility partially meet again physically and discuss more extensively classified aspects. For each SAB meeting, an unclassified session was maintained, to involve all Member States in the SAB decision making process.

With regards to Galileo in 2021,

- The SAB maintained the authorisation of the initial services up to and including the signal in space as well as the authorisation of the overall Galileo infrastructure and its evolutions (System Build 1.5.1 and 1.7);
- The SAB continued the evaluation of the progress made by the Programme in improving the overall security risk profile and in particular its cyber defence posture;
- The SAB maintained the ground segment sites' accreditation;
- The SAB authorised the public observation phase of Open Service Navigation Message Authentication (OSNMA) with guidance;
- With regards to the space segment, 2021 saw the preparation activities and the approval to launch satellites, Launch #11. The Programme and the SAB were largely involved in the discussion on the new launch security governance. The Formation Flight Keys (F-FK), comprising the SAB secretariat and the Member States experts directly involved in the launch campaigns, finalised the set of baseline documents outlining the management of the flight keys including the security assurance activities to be performed under the new setup. The F-FK participated in the launch campaign in November-December, taking care of the security assurance activities at the launch site. The SAB provided the Approval to Launch #11, and the launch took place successfully in December 2021.
- The SAB continued security accreditation activities for the Galileo Validation (VAL) system, with the experts being engaged in the review of the security accreditation dossier under consolidation, in view of the Programme request to accredit the VAL system (expected in 2022).

- The Formation on PRS keys of the new special subordinate body on Keys met for the first time, and worked on the first draft of its Strategy Plan.
- At the end of 2021, 138 EU bodies had valid SAB authorisation for developing or manufacturing PRS technology in 3 different categories. It is important to note that the SAB is awaiting the EC to provide the security requirements to be met by the PRS bodies in order to apply a simplified and unified authorisation process. These requirements should also cover manufacturing, which is currently implemented by an interim authorisation process.

With regards to EGNOS in 2021,

the SAB had particular attention to the approach to providing site security assurance for the remote stations placed in the territory outside the EU. The SAB approved the Security Accreditation Strategy (EGNOS SAS) for EGNOS v2 and v3. The SAB took a first decision to connect the INSPIRE G2. The SAB secretariat maintains coordination meetings with the Programme and took part in the first site security assessments.

The new Space Regulation,

the SAB stakeholders were engaged in the preparation towards the new Regulation. At the beginning of the year, a SAB Working Group drafted new SAB rules of procedures to reflect the new Regulation, together with the terms of reference for the SAB subordinate bodies to be created under the new Regulation.

With regards to the transversal services in the Agency,

the SAB chair continued to work very closely with the EUSPA Executive Director to implement a robust working relationship between both sides of the Agency maintaining the segregation and respective autonomy.

With regards to the staff under the supervision of the SAB,

the Security Accreditation Department recruited one new staff member and one seconded national expert, adding important resources to the administrative and technical support to the SAB and its bodies.

The SAB and its national experts, supported by the technical bodies and the SAB secretariat, keep working proactively to support the Programme and maintain a high standard of security assurance for the space systems. It is expected that the security accreditation of the new Space Components will be brought to the table of the SAB and its bodies starting in 2022. It is of paramount importance that the SAB secretariat receives the appropriate resources in terms of finance and staff to be able to perform the security activities requested by the Space Regulation and upcoming initiatives in the space sector.

Philippe Bertrand

Chair of the EU Space Programme Security Accreditation Board

Note by the Executive Director

2021 has been a pivotal year for European Union in space. In May 2021, the former European GNSS Agency transitioned into the European Union Agency for the Space Programme (EUSPA). This led to a restructuring of the agency and the undertaking of new responsibilities:

- increased responsibilities in terms of the EGNOS and Galileo exploitation management, service provision, and operational security,
- coordination -in close collaboration with the Member States and other involved entities- of the first-phase development of the EU Governmental Satellite Communications programme (GOVSATCOM),
- promotion of the commercial market uptake of Copernicus data, information and services in coordination with other actors involved, including actions dedicated to entrepreneurship and innovation.

The Agency is now also in charge of the security accreditation of all the EU Space Programme components.

Exploitation management and service provision

In charge of the exploitation of the EU GNSS services, EUSPA continued to provide high-calibre, safe and secure services while ensuring the seamless operation of both the space and ground segments.

Significant progress was made with regard to the two new Galileo differentiators, the Open Service Navigation Message Authentication (OSNMA) and High Accuracy Service (HAS). The former undergoes a public observation phase while the latter saw the launch of a call for expression for the testing phase and the publication of an info note.

Moreover, EUSPA secured the payload development of EGNOS GEO-4, an important element in the transition from EGNOS V2 to EGNOS V3. It will provide an extra layer of accuracy to various sectors and the crucial Safety of Life service. We awarded a new contract to ensure the EGNOS System Release 2.4.3. This system update will introduce a new generation uplink station -NLES- (Navigation Land Earth Station) which will allow the inclusion of the GEO-3 payload for improved redundancy. This system release is an important building block to secure the EGNOS service continuity until the EGNOS V3 is declared operational in 2026-27.

We upgraded both our Galileo and EGNOS ground segments with updates at the EGNOS facilities in Ciampino, Italy, and the inauguration of a brand-new Galileo Control Centre in Fucino, Italy. We also began working

with the Galileo Service Operator to orchestrate the operations from the GCC-D in Oberpfaffenhofen, Germany with our industrial and institutional partners.

Space assets safety

By the first trimester, we were reminded that increasing traffic and space debris are jeopardising the safety of our space assets. In March 2021, we had to perform an avoidance manoeuvre to eliminate the risk of collision between one of the Galileo satellites (GSAT0219) and an inert Ariane 4 upper stage launched in 1989 – fast action and close cooperation between EUSST and the Galileo Service Operator was the key to success.

New ventures

In the satellite communications sphere, we ramped up the preparatory activities for GOVSATCOM. EUSPA is ready to drive the 2nd phase of GOVSATCOM. EUSPA, in support of the European Commission, contributed to the preparation for the Secure Connectivity Initiative, a flagship initiative that aims at providing the European Union with fast, secure, and without white spots internet connection.

Market Uptake and Innovation

In line with our amplified mission, which includes the forging of synergies between the EU Space Programme components, we put forth action plans and initiatives to further accelerate the uptake of Earth Observation (EO) and GNSS data across industries. The main activities include:

- a new Horizon Europe call worth 32.6 million euros, designed in a way to include Copernicus together with Galileo and EGNOS.
- #myEUSpace competition challenging entrepreneurs to fuse GNSS and EO data with new technologies, such as quantum, to develop innovative, ecological and digital solutions.
- greater involvement in the European Commission's CASSINI initiative.

2021 concluded with a major milestone for Europe's global navigation satellite system. The Galileo satellites 27-28 were successfully launched from the European Spaceport in Guyana. They are currently under testing upon successful orbit and are expected to provide users with extra accuracy.

The Agency is also looking ahead to 2022 when the Agency together with the EU Member States and with the support of institutional and industry partners, will continue to implement the EU Space Programme and multiply the benefits space offers. EUSPA is committed to helping the Union achieve its ambitious Green Deal objectives and drive digital innovation.

Rodrigo da Costa

Executive Director, European Union Agency for the Space Programme

Executive Summary

By developing and operating a new generation of Global Navigation Satellite Systems (GNSS), Europe is opening new doors for industry development, job creation and sustainable economic growth. With the European Union in the driver's seat, Galileo is now a cornerstone of the global radio-navigation positioning system. In 2021, EUSPA was responsible for a range of activities, including:

- Ensuring the security accreditation of Galileo and EGNOS, through its independent Security Accreditation Board (SAB)². To that effect it initiates and monitors the implementation of security procedures and performs system security audits;
- Since the entry into force of the EU Space Regulation, Operational Security for the EGNSS component of the Programme;
- Ensuring the operation of the Galileo Security Monitoring Centre (GSMC);
- Performing certain tasks provided for in Decision No 1104/2011/EU on the rules for access to the Public Regulated Service (PRS) of Galileo;
- Contributing to the promotion and marketing of Galileo and EGNOS services, including carrying out the necessary market analysis, and establishing close contacts with users and potential users of the systems. With the entry into force of the EU Space Regulation, EUSPA also contributes to the promotion and marketing of Copernicus data.

EUSPA also performs other tasks relating to the implementation of the Galileo and EGNOS programmes, entrusted to it by the European Commission (EC) by means of delegation and contribution agreements, such as:

- Operational activities including infrastructure management, maintenance and continuous improvement of the EGNOS and Galileo systems, certification and standardisation operations and provision of the services;
- Development and deployment activities for the evolution and future generations of the systems, and contribution to the definition of service evolutions, including procurement;

² The activities related to security accreditation, described in Chapter III of Regulation No 9012/2010, including the Agency staff performing them, are fully the responsibility of the Chairperson of the Security Accreditation Board.

- Promoting the development of applications and services based on the systems, as well as raising awareness of such applications and services, including identifying, connecting and coordinating the network of European centres of excellence in GNSS applications and services, drawing on public and private sector expertise, and evaluating measures relating to such promotion and awareness-raising;
- GOVSATCOM activities, including those related to the GOVSATCOM hub;
- Promoting the development of Fundamental Elements, such as Galileo-enabled chipsets and receivers;
- Fulfilling defined tasks related to the management of projects under the Horizon Europe framework programme for navigation applications research and innovation.

1. Achievements in 2021

The Agency in the first part of 2021 performed core tasks under Regulation (EU) No 912/2010 of the European Parliament and of the Council on setting up the European GNSS Agency ("GSA Regulation") and a number of tasks under delegation from the European Commission, while since May 2021, the Agency performed core and entrusted tasks under the Regulation (EU) No 2021/696 ("EU Space Programme Regulation").

All activities are mapped in the Agency's Work Breakdown Structure (WBS). Each objective is shown with its allocated WBS number to indicate how the activities are structured.

This section provides an overview of EUSPA's achievements during 2021. It is structured around the five areas of work described in the Single Programming Document (SPD) 2021-2023 and later the Amendment of the Single Programming Document 2021-2023. The achievements for 2021 are placed within the context of the multiannual goals and are reported against the annual objectives, performance indicators and expected outputs defined in the SPD.

1.1 Security Accreditation Activities (WBS 2.04, WBS 2.05, WBS 2.06)

In accordance with article 80 of Regulation (EU) 2021/696, the Security Accreditation Board prepared this section. It is being incorporated into this document, without any change.

1.1.1 Tasks until 2023

	Tasks	Objective	Year
1	Approvals of satellite launches	The Agency shall perform security assurance activities, inform the SAB of the results and administer corresponding accreditation decisions for satellite launches.	2021 – 2023

	Tasks	Objective	Year
2	Authorisations to operate the systems set up under the components of the Programme or the elements of these components in their different configurations and for the various services they provide, up to and including the signal in space	The Agency shall perform system, operations, and services security assurance activities, establish a monitoring process of the security risk assessment and related security measures, inform the SAB thereof and administer corresponding accreditation decisions.	2021 – 2023
3	Authorisations to operate ground sites	The Agency shall perform site security assurance activities including site visits, inform the SAB thereof and administer corresponding accreditation decisions	2021 – 2023
4	Authorisation of bodies to develop or manufacture sensitive technology	The Agency shall administer security accreditation decisions on authorisation of bodies to develop or manufacture sensitive PRS technologies, PRS receivers or PRS security modules, or any other technology or equipment which has to be checked under the general security requirements referred to in Article 34(1), for PRS service in Galileo or any other secure service stemming from the components of the Programme	2021 – 2023
5	SAB Secretariat	The Agency shall ensure the SAB secretariat and shall ensure general support to the SAB chairperson in discharging their regulatory responsibilities	2021 – 2023
6	SAB Subordinate panel (and related groups of experts)	The Agency shall organise the special subordinate Panel to the SAB comprised of Member State security experts in order to conduct security analysis of specific issues and provide accreditation recommendations to the SAB to assist in its decision making. Expert groups may be set up and disbanded to contribute to the work of the panel. The Agency provides chairmanship and independent expertise in support of the Panel and other subordinate bodies.	2021 – 2023
7	Assurance for Galileo keys	The Agency shall organise a special subordinate body to the SAB comprised of Member State security experts in order to provide assurance on the management of flight keys and other keys necessary for the functioning of Galileo. This includes assurance on key handling during launch campaigns. It shall also conduct verification of the establishment and enforcement of procedures for generation, accounting, secure handling, storage and distribution of the PRS keys of Galileo.	2021 – 2023
8	New SAB regulatory responsibilities on Copernicus, GOVSATCOM and SSA	The SAB shall plan for the accreditation activities for the three new components (Copernicus, GOVSATCOM, SSA) and progressively initiate them, till their implementation under the above tasks as relevant	2021 – 2023

1.1.2 Highlights for 2021

The Security Accreditation Department provided the technical and administrative secretariat support to the SAB to reach decisions that are proportionate, appropriate and effective at the Programme milestones.

Due to the continuation of the epidemiologic situation and travel difficulties, each SAB meeting maintained an unclassified part held via teleconference. The SAB maintained the continuity in the decision making by implementing a temporary way of working for its functioning under extraordinary circumstances during the COVID-19 crisis. A number of decisions were taken via written procedure.

The new Space Regulation, Regulation (EU) 2021/696, entered into force in 2021. At the beginning of the year a SAB Working Group drafted the new SAB Rules of Procedures and the new Terms of Reference of the special subordinate bodies, reflecting the new Space Regulation. Based on those, the Panel was reorganised in Formations, one per space component; the new special subordinate body on keys was established, with a Formation for Flight Keys and a Formation for PRS keys.

The main objectives for 2021 were achieved:

- The SAB maintained the authorisation for the programme to provide initial operations of the Galileo system for the provision of Initial Services up to and including the Signal in Space, released for the first time in December 2016.
- The SAB authorised the declaration of the OS Enhanced Service Step 3 and then authorised the Galileo service provision of OS, PRS, and SAR, as per latest service definition documents.
- The SAB authorised the Interim Approval to Operate (IATO) of the Galileo infrastructure. The SAB provided the authorisation to operate System Build 1.5.1 and the pre-authorisation to operate System Build 1.7
- The SAB issued a total of 22 Site Authorisations To Operate (of which 5 are new) for the Galileo system, maintaining the validity of the accreditation of the Galileo sites. The SAB authorised 3 sites to be connected to the Galileo Robust Operational Network (GRON) network.
- The SAB secretariat and its support contractors reviewed the accreditation files submitted by the Programme, in particular in preparation of the SAB and SAB subordinate bodies' meetings, and elaborated their findings in recommendation/decision notes.

- The SAB secretariat was involved in major Programme reviews, attended the Programme Cyber Board, and conducted independent security assessments on GSMC France SecOps with the support of its contractors.
- The SAB secretariat continued to be engaged in activities in cybersecurity, in particular with the verification of evidence submitted by the Programme for remediation of vulnerabilities and implementation of treatment plans.
- The SAB provided the Approval to Launch #11 and later authorised the corresponding in-orbit test campaign.
- The SAB extended the OS-NMA (Open Service Navigation Message Authentication) internal testing phase and later authorised an OS-NMA public observation test phase.
- The SAB continued the accreditation activities linked to the Galileo Validation (VAL) system, in particular reviewing the preliminary accreditation dossiers.
- On Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules, the SAB issued 33 new authorisations; 31 reauthorisations/extensions/updates; 160 Authorisation scope updates. By the end of the year, 138 EU bodies had valid SAB authorisations.
- The SAB kept on-hold the proposal for a simplified PRS authorisation process improving the alignment to the Commission Delegated Decision supplementing Decision No 1104/2011 of the European Parliament and the Council as regards the Common Minimum Standards to be complied with by the competent PRS authorities. The simplified proposal is on hold as the SAB is awaiting the EC to provide the definition of security requirements to be met by the PRS bodies.
- The SAB agreed to continue issuing authorisations also for the manufacturing phase by applying the interim process for PRS authorisations initially valid for R&D purposes.
- The SAB worked together with the Programme on a proposal for the governance to be applied to launch campaigns as of 2021. The SAB Member States directly involved in the launch campaigns, supported by the SAB secretariat, developed a set of baseline documents outlining the flight key assurance activities to be performed under the new setup.
- The SAB activated the Formation Flight Keys (F-FK) for Launch #11. The F-FK Member States met to prepare the assurance activities for the launch campaign and successfully implemented them.

- The SAB continued the accreditation activities of the EGNOS system. The SAB approved the EGNOS v2 and v3 Security Accreditation Strategy, including the site accreditation and in particular for the RIMS site assurance. The SAB took a first decision for EGNOS, to authorise the connection of INSPIRE G2 at EGNOS Mission Control Centre (MCC) Torrejon for a testing campaign.

1.1.3 Tasks for 2021

Objective 1: Operate effective administration of the SAB so as to support timely decision making (WBS 2.04.01)				
Expected results			2021 results	
<ul style="list-style-type: none">• Reporting to SAB chairman• SAB meeting plan proposed in coordination with the Programme to anticipate possible milestones• Distribution of working papers in due time before each meeting• Establishment of minutes in due time after each meeting• Administrative written procedures as necessary• Record and transmit all SAB decisions			<ul style="list-style-type: none">• Regular reports to SAB Chairman, in particular after each meeting of the technical bodies.• The SAB meeting plan was established at the end of 2020 and maintained in 2021 to keep it aligned with the changes in the Programme schedule. 5 SAB meetings took place in 2021.• Relevant documents were distributed in advance of each meeting. The SAB secretariat drafted a recommendation/decision note for each SAB decision, containing the assessment of the topic and a recommendation to the SAB.• Minutes were established after each meeting, submitted to the SAB chair for review and approval, and finally for SAB approval. All minutes were approved by SAB and archived.• Decisions that could not be taken during the meetings e.g. due to lack of quorum or time constraints were administered via silence procedures (around 90).• All SAB decisions were recorded and addressed to the European Commission.	
Indicators	Successful implementation of required administrative processes.		Targets	
			100%	
			2021 results	
			100%	
Planned outputs			Actual outputs	
Outputs relating to the multi-annual work programme objectives:			<ul style="list-style-type: none">• Up-to-date register of SAB actions and decisions.	

<ul style="list-style-type: none"> Up-to-date register of SAB actions and decisions SAB minutes of meeting Yearly SAB meeting plan Archive of Accreditation Statements Up-to-date register of SAB membership <p>Other outputs:</p> <ul style="list-style-type: none"> Security Accreditation reports Recommendations to the SAB / SAB Chair 	<ul style="list-style-type: none"> Archive of approved SAB minutes of meetings. 2021 SAB meeting plan approved at the end of 2020 and then kept aligned to the needs of the Programme. Approval of 2022 SAB meeting plan at the end of the year. Archive (paper and electronic formats) of accreditation statements and official communications. Register of SAB membership kept updated. Recommendations of SAB secretariat and technical bodies to the SAB for each decision. SAB Rules of Procedures updated and approved, reflecting the new regulation Terms of Reference of the special subordinate bodies (Panel and special subordinate body on keys) updated and approved, reflecting the new regulation
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Objective 2: Support to SAB Management (WBS 2.04.02)	
Expected results	2021 results
<ul style="list-style-type: none"> Work Programme adopted Budget adopted Establishment Plan adopted 	<ul style="list-style-type: none"> Sections in the Single Programming Document (SPD) covering the SAB security accreditation activities were adopted by the SAB. Draft budget for SAB activities was prepared and integrated in the approved SPD. Regular reports on the implementation of the SAB Budget were made. Resource needs of the Security Accreditation Department communicated to the Executive Director of the Agency.
Targets	2021 results

Indicator	Single Programming Document (SAB relevant sections) provided on time to SAB for approval	Yes	Yes
Planned outputs Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> • Draft 2021 SAB Work Programme • Draft 2021 SAB budget • Report on 2020 SAB budget • Draft/update SAB Staff Establishment Plan 		Actual outputs <ul style="list-style-type: none"> • SPD approved by SAB. • Budget included in the SPD and approved. • Regular SAB budget report performed, 2020 CAAR approved by SAB. 	

Objectives 3: To provide all authorisation statements needed by the Programme and approved by SAB (WBS 2.04.04)	
Expected results	2021 results

<ul style="list-style-type: none">• Approvals to satellite launch• Authorisations to operate the systems set up under the Programme’s components or the elements of those components in their different configurations and for the various services they provide, up to and including the signal in space.• Authorisations to operate the ground stations• Security accreditation statements• Changes to existing security accreditation statements• Re-accreditation statements		<p>Security Accreditation statements and needed changes to them were released by the SAB for each accreditation milestone and for each request by the Programme.</p> <ul style="list-style-type: none">• One Approval to Launch for Galileo (Launch #11)• Authorisation for the Programme to operate the infrastructure (IATO) and to continue to provide Initial Services for Galileo up to and including the Signal in Space.• Authorisations for system evolutions requested by the Programme analysed and provided according to the SAB decisions, for example authorisation to operate System Build 1.5.1. and pre-authorisation to operate System Build 1.7.• Authorisations to operate the ground stations: 17 extensions of Galileo site authorisations, 4 new Site Approval To Operate and 1 new SAR (Wallis), 3 authorisation to operate GRON subscriber sites (EEAS, France, Germany).• Authorisations of bodies to develop and manufacture PRS receivers or PRS security modules: 33 new authorisations; 31 reauthorisations/extensions; 160 Authorisation scope updates; for a total of 138 SAB authorised bodies. <p>All accreditation statements were kept up to date and extended/amended when needed according to their validity.</p>
Indicators	All SAB statements provided to Programme Management within two weeks after decision.	100%
	2021 results	
		100%
Planned outputs		Actual outputs
<ul style="list-style-type: none">• Approval to launch• Authorisations to operate the system in its different configurations and services• Authorisation to operate the ground stations• Various accreditation statements following Programme request for accreditation		<ul style="list-style-type: none">• One Approval to Launch for Galileo (Launch #11) and subsequent approval for IOT campaign• Authorisation for the Programme to continue to provide Initial Services for Galileo up to and including the Signal in Space.

	<ul style="list-style-type: none"> • Authorisation of the Galileo service provision of OS, PRS, and SAR, as per last service definition documents. • Approval to Operate (IATO) for Galileo, maintained updated with the configuration evolution. • Authorisation to operate System Build 1.5.1, pre-authorisation to operate System Build 1.7. • Authorisation of the declaration of the OS Enhanced Service Step 3 and updated PRS service. • Authorisation of OS-NMA internal testing phase and then public observation test phase. • Authorisations to operate the ground stations: 17 extensions of Galileo site authorisations, 4 new Site Approval To Operate and 1 new SAR (Wallis), 3 authorisation to operate GRON subscriber sites (EEAS, France, Germany). • Authorisation to connect EGNOS INSPIRE G2.
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Objective 4: Ensure management of the special subordinate bodies and their expert groups including their chairmanship (WBS 2.05.05)	
Expected results	2021 results
<ul style="list-style-type: none"> • Propose panel meeting plan • Organise panel meetings throughout the year • Preparation for technical discussion in each meeting • MoM approved at each meeting • Deliver accreditation recommendations from the subordinate body to SAB 	<ul style="list-style-type: none"> • SAB meeting plan for 2021, including the Panel meetings, was approved by SAB and subsequently maintained to take into account the changes in the Programme schedule. 2022 meeting plan was approved at the end of the year. • 5 Panel meetings were organised in 2021 (all 5 including Formation Galileo, and 3 including also for Formation EGNOS).

		<ul style="list-style-type: none"> The staff of the Security Accreditation Department (SAB secretariat) ensured the chairmanship and the technical and administrative secretariat of those meetings. The SAB secretariat drafted a recommendation note for each item on which the Panel had to provide a recommendation to the SAB in view of a decision. Each note included the assessment of the SAB secretariat and it was discussed by the Panel, amended if needed and provided as recommendation to the SAB in an associated decision note drafted by the SAB secretariat. Minutes of the Panel meetings were approved either at each meeting or shortly after, in time for submitting approved MoM to SAB for their meetings as timely input for decision making containing Panel recommendations for SAB decisions Recommendations of the Panel were summarised by the Panel chairman at each SAB meeting. 	
Indicators		Targets	2021 results
	<ul style="list-style-type: none"> Successful implementation of required administrative processes. 	100%	100%
	<ul style="list-style-type: none"> Minutes of meeting submitted for approval at each meeting 	For each meeting	For each meeting ³
	<ul style="list-style-type: none"> Outcomes of each meeting reported to each SAB All accreditation milestones and other decisions in SAB Agenda, in need of security risk assessment, addressed by the subordinate body 	For each meeting 100%	For each meeting 100%

³ For teleconferences, the minutes were approved by written procedure

Planned outputs	Actual outputs
<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Security accreditation recommendations from the subordinate body to the SAB Briefing to SAB and SAB chairman on the outcome of the subordinate body 	<ul style="list-style-type: none"> The SAB secretariat provided, in support of each Panel recommendation, a note summarising the topic, providing the assessment performed by the SAB secretariat and a draft recommendation. The Panel issued a recommendation to SAB for each technical decision item on SAB Agenda. The SAB secretariat developed a decision note to SAB based on each recommendation note endorsed by the Panel. The Panel chairman provided a briefing to SAB and SAB chairman for each item of relevance.
Objective 5: Ensure independent assessment of system level security (WBS 2.05.01)	
Expected results	2021 results
<ul style="list-style-type: none"> Carry out independent security assessments and system audits/reviews and report to subordinate body/SAB accordingly Participate in security-sensitive programme reviews at system level and, where necessary, ad hoc participation in segment reviews Monitor risks and treatment plans and report to subordinate body /SAB accordingly If requested by the SAB, review existing strategies to ensure consistency with the regulation/ programme and propose enhancements as appropriate 	<ul style="list-style-type: none"> The experts of the SAB accreditation team (together with the contractors) carried out a review of the security accreditation dossier for each Programme accreditation request. Recommendations to the SAB Panel and SAB were made accordingly in the form of recommendation/decision notes. The experts of the SAB accreditation team participated to main Programme reviews. Examples of reviews for Galileo: SB 1.7 SDQR Close-Out, OS-NMA Live Test Check, Open Service Enhanced Service Step 3 – Service Validation Review, System Build 1.7 Operational Validation Review, Satellite Batch 3 Qualification Acceptance Review, L11 Operational Readiness Review, EWS Service Concept Review, OS-NMA Service Design Review, OS FOC Service Consolidation Review. Examples of reviews for EGNOS: EGNOS v3 Security Key Point 2, EGNOS INSPIRE G2. The experts of the SAB accreditation team participated to several meetings as observers, such as meetings of Working Groups of the Commission (Galileo, EGNOS, GOVSATCOM) and Programme Cyber Board.

			<ul style="list-style-type: none"> Independent security vulnerability assessment was performed on parts of the system (GSMC-France Scups). Risks and treatment plans were constantly monitored and discussed at Panel and SAB meetings. Analysis of evidence of vulnerabilities remediation and feedback to Programme. The Security Accreditation Strategy for the EGNOS system was approved by the SAB.
Targets			2021 results
Indicators	Participation to security-sensitive Programme reviews when invited by the Programme.	100%	100%
	Organisation of independent security vulnerability tests and/or system audits allocated to SAB.	100%	100% (1)
Planned outputs			Actual outputs
Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> Recommendations to SAB 			<ul style="list-style-type: none"> The SAB secretariat managed the SAB consultancy contracts supporting the various accreditation reviews and security assessments. Internal reports from participation to Programme reviews, Task Forces, Programme WGs. Briefings to SAB chair. Recommendation/decision notes to Panel and SAB for each decision.

Objective 6: Assurance for Keys (WBS 2.06)				
Expected results			2021 results	
<ul style="list-style-type: none"> Propose meeting plan Organise meetings throughout the year Preparation for technical discussion in each meeting MoM approved at each meeting Deliver accreditation recommendations from the subordinate body to SAB 			<ul style="list-style-type: none"> Formation Flight Keys meetings held periodically in 2021 to define the flight key assurance activities for the future launch campaigns and to develop relevant documentation to describe these activities, and then, after Launch#11 F-FK activation by SAB, to prepare the assurance activities of the launch campaign #11. 1 Formation PRS keys meeting held in 2021 (Kick off meeting of the Formation) The SAB secretariat provided the chairmanship, and the technical and administrative secretariat for each meeting. 	
Indicators	Targets		2021 results	
	Successful organisation of meetings following SAB instruction	100%	100%	
	All accreditation milestones and other decisions in SAB Agenda, in need of a technical assessment, addressed by the group of experts	100%	100%	
	Successful implementation of required administrative processes	100%	100%	

Minutes of meeting submitted for approval at each meeting	For each meeting	For each meeting
Outcomes of each meeting reported to each SAB	For each meeting	For each meeting
Timely execution of tasks related to flight key assurance per each launch campaign	For each launch	For each launch (1)
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> Assurance statements to SAB meetings Recommendations to the SAB and/or SAB Chair 		<ul style="list-style-type: none"> Documents by F-FK for the launch campaign such as Code of Conduct, Communication Plan, Rules of Procedures, assurance KMOP. First draft of the Strategy Plan for F-PK

Objective 7: Prepare for the new SAB regulatory responsibilities on Copernicus, GOVSATCOM and SSA (WBS 2.04.02, WBS 2.04.03)	
Expected results	2021 results
<ul style="list-style-type: none"> Plan for the accreditation activities for the three new components (Copernicus, GOVSATCOM, SSA) Progressively initiate the accreditation activities for Copernicus, GOVSATCOM, and SSA, in order to integrate them in the implementation as per Objectives above. 	<p>The accreditation activities involving the SAB for Copernicus, GOVSATCOM, and SSA did not start.</p> <ul style="list-style-type: none"> One meeting took place with European Commission to have a first exchange on security accreditation on GOVSATCOM.
Targets	2021 results

Indicators	Plan for initial accreditation activities for Copernicus, GOVSATCOM, and SSA in compliance to the SAB processes	yes no
Planned outputs Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> • Contact network with main security stakeholders and security bodies active in Copernicus, GOVSATCOM, and SSA • Plan for relevant accreditation documents (e.g. Security Accreditation Strategy) as base for the start of the accreditation of Copernicus, GOVSATCOM, and SSA • Plan for initial accreditation activities for Copernicus, GOVSATCOM, and SSA • Proposal for the reorganisation of the SAB and its subordinate bodies to accommodate the accreditation of the new components 		Actual outputs <ul style="list-style-type: none"> • SAB secretariat participates as observer to the WG on GOVSATCOM. • Regular slot in the SAB Agenda meeting for status report by the Commission. • The Panel Terms of Reference was adapted in order to accommodate Formations based on all Space Components.

1.2 Operation of the Galileo Security Monitoring Centre (WBS 4.06)

1.2.1 Tasks until 2023

ID	Activity	Objective	Year ⁴
M1	Management of the organisation and communication (Management Process)	Define the GSMC Operations strategy and objectives.	2021 - 2023
		Prepare and implement the GSMC's operations by scheduling milestones and main activities.	
		Report to programme stakeholders on the GSMC operations activities.	
		Provide an overview on the GSMC internal communication (top-down and bottom-up approaches) and team organisation.	
		Ensure the development and implementation of project management processes, methodologies, tools, and reporting.	
M2	Integrated Management System (Management Process)	Guarantee maintenance of the Agency's ISO 9001 certification, including adaptation to ISO 9001 evolutions.	2021 - 2023
		Ensure Product Assurance (PA) and Quality Assurance (QA).	
M3	Risk and business continuity management (Management Process)	Identify and manage risks that could impact the Galileo operations and the Programme.	2021 - 2023
		Ensure the maintenance and readiness of a Business Continuity Plan.	
M4	Health & Safety management (Management Process)	Maintain the responsibilities for health and safety at work and maintain a safe environment on both GSMC sites in line with EUSPA policy.	2021 - 2023

⁴ The year indicates when the Agency expects to perform listed action. These dates are correct as of the time of writing and are based on the current plans.

ID	Activity	Objective	Year ⁴
M5	Resolution and continuous improvement management (Management Process)	Ensure that problems and improvements are identified, recorded and handled.	2021 - 2023
C1	Engineering and requirement management (Support Process)	Identify, analyse and implement the requirements applicable to the GSMC and track evolutions of the applicable baseline.	2021 - 2023
		Ensure and report on the GSMC's compliance with programme requirements.	
		Design, validate and deploy Standard Operating Procedures (SOP) and Operational tools in support to the operations.	
		Define processes, tools and plans for system development activities, including maintenance for the two sites.	
C2	Operations, expertise and analysis (Core Process)	Ensure the security accreditation of sites and IT systems	2021 - 2023
		Ensure the security accreditation of sites, Services and IT systems	
		Provision of expertise on PRS and Galileo security	
		Enable PRS access to authorised stakeholders, in compliance with PRS access rules.	
C3	Crisis management (Core Process)	Maintain the GSMC IT Operational Systems required to meet the GSMC's core missions in both GSMC sites (master and backup).	2021 - 2023
		Be ready for specific operations in case of a crisis affecting the Galileo system, including supporting the Council decision (CD 2021/698) process.	
S1	Administrative processes (Support Process)	Ensure support to the GSMC management with regards to onsite HR, procurement, legal and financial management	2021 - 2023

ID	Activity	Objective	Year ⁴
S2	Local security (Support Process)	Prepare for, ensure, and maintain local security operational support to protect EU classified information present on GSMC sites and its assets.	2021 - 2023
S3	Hosting support and configuration management (Support Process)	Provide facilities services to support GSMC operations	2021 - 2023
		Implement, ensure, and maintain Configuration Management	

1.2.2 Highlights for 2021

The Agency ensures the operation of the GSMC. As part of the Agency, the GSMC operationally interfaces with the Galileo Control Centres (GCCs), the Competent PRS Authorities (CPAs), the Council and the High Representative of the Union for Foreign Affairs and Security Policy. It acts under Council Decision (CFSP) 2021/698 and must inform the EC of any event that may affect the expected operations of the PRS.

With respect to GSMC operations, in 2021 the Agency continued to demonstrate its capability – despite the COVID-19 related working conditions – to sustain the 24/7 service provision of Galileo Security Monitoring, Council Decision (CFSP) 2021/698 response, PRS Access Management and Galileo Cybersecurity operations ramp-up.

- The finalisation of GSF P2.2.1 Migration to OPE for SECMON as part of SB 1.5.1 (completed on 21/01/2021), and the deployment of the GSF P2.2.1.1 maintenance release to OPE chain to correct major PRS and System anomalies identified during the GSMC V3.1 OSRR (completed in August '21);
- Conclusion of GSMC V3.1 Service Validation PRS/SECMON and successful C/O of the GSMC V3.1 OSRR supporting IS PRS update milestone at the of 2021;

In addition to the Operations, EUSPA/GSMC supported:

- The back-up site operations to ensure dual site capability readiness following the Hosting Agreement signature between Spain, the European Commission and EUSPA (then GSA) in 2019. The Early configuration site, namely E2 building, became fully operational in 2021.
- The back-up site evolution on which EUSPA supports the preparation of the Final configuration, namely the E6 building.
- The construction of the GSMC-FR extension, namely Building 132, has progressed at steady rate. The outer shell of the building envelope was completed in Q3 2021, and internal equipment deployment is progressing.

1.2.3 Tasks for 2021

Objective 1: Ensure that European GNSS services and operations are thoroughly secure, safe and accessible (WBS 4.06.01)	
Expected results	2021 results
<p>1. [Operations, Expertise and Analysis]:</p> <ul style="list-style-type: none"> a. [Security and System Status Monitoring]: monitor system security and health, detecting, containing, investigating and reacting to security incidents (System Incident Management) b. [PRS Access Management]: enable access to PRS to authorised stakeholders, in compliance with PRS access rules (including the Common Minimum Standards) within the limit of the system design. Manage the lifecycle of PRS access in order to assure service continuity, including through service support and secure communication interfaces. c. [Cyber Security Management]: Galileo vulnerabilities management by consolidating the cyber vulnerabilities present in the Galileo operational systems, linking them to the current threat landscape (i.e. threat intelligence) and monitoring their lifecycle until their effective correction d. [IT OPS Sysadmin support]: Ensure on-going L1 maintenance of the IT operational and validation systems in both GSMC sites (FR and ES). Support to configuration and asset management, escalation to Level 2, and liaison with Supporting ICT systems. 	<p>Operations, expertise and analysis:</p> <ul style="list-style-type: none"> • Security and system status monitoring The number of actions related to security and processed by the GSMC increased significantly during 2021 as a result of the Galileo security monitoring perimeter increase consistent with the GSMC v3.1 upgrade. Moreover, the Service Level Agreements (SLAs) were met demonstrating the resilience of the EUSPA and the commitment and capability to comply with defined KPIs, despite the working conditions generated by the COVID-19 pandemic. • PRS access management The provision of PRS access management services has been successfully ensured following the standard operational procedures, and in compliance with the PRS access rules. The SLAs were fully met, demonstrating the resilience, robustness and efficiency of the GSMC operations. This achievement was performed while finalising the validation of the GSMC v3.1 and deploying a new maintenance release to fix critical anomalies (GSF P2.2.1.1) in the midst of the COVID-19 pandemic. The Agency has consolidated its role increase in the management of Galileo PRS operations as a central player and has demonstrated its capability

2. [Crisis Management]: specific activities and configuration of the GSMC to respond to the needs and requirements of a crisis affecting the Galileo system, including supporting any Council Decisions. This will be activated only under specific conditions.

not only to maintain continuous provision of classified services to CPAs, but also its capacity to improve the Service Levels as demonstrated by the IS PRS update milestone declaration at the of 2021.

- **Cyber Security Management**

The implementation of the EC Cyber Policy and Cyber requirements continued the ramp up during 2021 especially in the vulnerability management. The interaction with the Galileo Cyber Security Managers (CSM) was key while validating SOIF to support cyber activities from the GSMC. The reports and security advisories from the CERT EU have been shared with the CSMs and assessed by the GSMC cyber-experts on Threat Intelligence to identify indicators of compromise (IoC) with the aim to enlarge the cyber-detection capabilities. With the aim of facilitating the assessments and quick decision making to mitigate and/or fix critical vulnerabilities the Terms of Reference of the Galileo Operations Cyber Review Board (OPS CRB) were discussed and consolidated with EC, ESA and EUSPA CSM.

Completion of the Cyber OPS Team with the remaining open profiles (Malware and Forensics).

- **IT OPS support**

Maintenance activities have been ensured for GSF on both GSMC sites during 2020 with the activities reported on a monthly basis. Preventative maintenance activities were completed on time according to the predefined schedule throughout the year.

The IT OPS team was reinforced with a system administration contract to ensure provision of support and availability of all operational systems and tools.

Issues are raised, as per process, through the GSF Anomaly Review Board. Observations on the GSF system have been raised and escalated to L2 and coordinated on a weekly basis.

			<p>The implementation of GSMC Dual Site Operations was achieved by carrying out the operations from GSMC-ES (triggered in May and September 2021).</p> <ul style="list-style-type: none"> Crisis management Joint EEAS (European External Action Service)/ EUSPA CD698 activities with the Agency were performed in 2021 for the validation of the updated interfaces following the implementation of a Crisis cell at EC/EEAS level. Annual exercise of the Galileo Incident Response Coordination (IRC) operational architecture was performed, as well periodic IRC communications testing has been started in 2021.
Indicators	Targets		2021 results
	Incident handling / defined SLA	Increase of the Galileo Security Monitoring Perimeter	Service Level Targets (R-UE/UE-R)
	PRS access service within agreed response time	Transfer of the PRS management capabilities from the GCCs and improvement of service level targets	Service Level Targets (R-UE/UE-R)
Planned outputs			Actual outputs
<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> System status and security monitoring: incident handled, escalation of Member States or to Joint Action, resolution of security incident, assessment of vulnerabilities and recommendations, security reports, anomalies and requests for change/deviation/waiver, Service Level Agreement chart PRS access management: availability of PRS access, workarounds, PRS security reports, Notification to Galileo Users, anomalies and requests for change/deviation/waiver, Service Level Agreement chart Crisis management: Council Decision (JA) instructions implementation report, Notification, Council Decision assessment report, Acknowledgement of the cancellation of a Council Decision Security Expertise and Analysis [IT OPS Sysadmin support]: IT Maintenance reports for preventive and corrective activities. KPI reports on system availability. 			<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> System status and security monitoring Security reports (Security Monthly report, ad-hoc Security Incident reports); Standard operating procedures; Report on Service Levels (R-UE/UE-R). PRS access management The PRS access management service provided to CPAs. Availability of PRS operations and the PRS service was successfully provided to the external stakeholders, in accordance with SLT. Report on Service Levels, security monthly reports/ PRS annex (R-UE/UE-R) and other operational products were delivered on time. Support to CPA testing and JTA activities was also provided.

	<ul style="list-style-type: none"> • Cyber Security Management Cyber security Annex to the Security Monthly Report (SMR) started in Q3. Monthly report of cyber operations activities, especially Vulnerability Status of the systems in operations compliant with Cyber requirements. Contribution to the EUSPA Cyber Status Report (CSR). Participation to the Galileo Programme Cyber-security Board (GPCB). Participation to all the migrations key points and cyber-milestones (CRR) until hand-over of the first segment cyber-compliant delivered by ESA: GCS 3.0. Validation activities of SOIF 2.2.1+ in view of the preparation of the Service Validation Campaign of GSMC v3.2. • IT OPS support Monthly report provided for preventative maintenance activities. Corrective maintenance activities reported monthly via the Anomaly Review Board and Change Control Board monthly activity report. The Service level targets for system (GSF) availability is reported on a monthly basis in the GSMC Monthly Report SLAM chart (R-UE/EU-R). The SLT metric is Report on Service Levels (R-UE/UE-R) however it can be confirmed that in 2021 the SLT was achieved.
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Objective 2: Ensure the maintenance and development of the Operations Engineering processes (WBS 4.06.02)	
Expected results	2021 results
Engineering and requirement management: <ul style="list-style-type: none"> • <i>Requirement management:</i> <ul style="list-style-type: none"> ○ Identification, analysis and flow-down of requirements and track evolutions that could impact the GSMC and the maintenance of the applicable baseline ○ Ensure and report on GSMC compliance with programme requirements over time 	<ul style="list-style-type: none"> • Requirement management The Agency was involved in the programme review for the PRS and SECMON engineering milestones.

- *Operations and supporting activities engineering:* design, validate and deploy in support to the operations, as well as the related business continuity plans.
- *ILS and Maintenance engineering*
 - Define and update ILS processes, plans and tools, and support system development and deployment activities, including maintenance for the two GSMC sites.
- *Technical engineering:*
 - Identify and define the processes, methods, tools and logic of system development activities, including maintenance and support capabilities for the two sites
 - Manage the lifecycle of the technical processes that lead to the in-production setting of new technical supporting assets and processes
 - *Workload engineering:* establish, validate and maintain (mostly people) workload budgets for GSMC's activities and in line with operations/ICT systems/infra evolutions.

A flow-down of the systems new versions continued to be implemented on time for respective System Baselines with requirements traceability within Doors (a requirement management software).

- **Operations engineering**

EUSPA designed, reviewed and validated a new set of operational procedures in line with SB1.5.1 to support the enhanced service milestones, trained operators. In general, 9 training campaigns were conducted (3 for PRS, 5 for SECMON and 1 for Launch Security Monitoring Cell (LSMC)).

The GSMC V3 main activities have been the Operation of GSMC OPS V3.

- **ILS and Maintenance engineering**

GSMC existing processes have been updated:

- Change Management
- Anomaly Management processes

New GSMC plans and processes have been created:

- GSMC Maintenance
- Hardware Configuration Inspection
- Spares Acquisition
- GSMC Configuration
- Reception of assets
- Decommissioning.

To support an improvement in configuration management, a CR#59 to GSOp SC2 has been prepared and submitted, for the procurement of Configuration Management Asset Tool and Service Desk Tool for GSMC use.

GSMC contribution to ESA reviews related to SB2.0 and to SB2.1.

The Maintenance baseline was updated for GSF 2.2.2 and SOIF 2.2.1c releases, including expression of need related to SOIF V2B.01.05.06 scope.

Indicators	Targets		2021 results
	DRB_OVR of GSF 2.2.2 DRB_OVR of SOIF 2.2.1.c	07/2021 (.05) 08/2021 / (.06) 12/2021	07/2021 (.05) 09/2021 / (.06) 02/2022
Planned outputs			Actual outputs
<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Requirement management: service level management, statement of compliance with SSRS Operations engineering: validation reports, new catalogue of operations procedures, anomalies, change requests Technical engineering: new catalogue of maintenance procedures, anomalies, change requests Hosting engineering: lead in follow-up of new buildings deployments by France and Spain. Establish requirements for upgrades or changes to existing infrastructure as necessary for deployment of operational IT systems or hosting availability. Contribute to monitoring or validating the implementation of such changes. 			<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> Requirement management EUSPA inputs to Galileo Service Development, Deployment and Validation Plan and GSMC service roadmap. Operations engineering <u>Engineering Process</u> GSMC Engineering Procedure <u>Validation</u> Operations Readiness Review Validation Plan and report Statement of Compliance Supporting Documents: test cases, weekly status report, weekly schedule of testing, Operational Readiness Review Test Readiness Review report, Operations Readiness Review Kick Off Report, Operations Readiness Review Closeout Report, Launch & Early Operations Phase (LEOP) Validation Plan, LEOP Validation Report <u>Certification (multiple)</u> Training Needs Analysis, Training Material, Practical and Theoretical, Exam questions, Certification Plan, Certification Board report, Operator Certificates <u>GSF Anomaly Review Board (ARB) & Change Control Board (CCB)</u> Process definition documents, weekly agendas and minutes of meetings, Responses to actions

	<ul style="list-style-type: none"> • Technical engineering Full set of documentation associated with the following: <ul style="list-style-type: none"> - GRON v1: Final deployment was completed in 2021 for all sites, with the exception of GCC-I.
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Objective 3: Ensure the availability of Hosting Services (WBS 4.06.03)	
Expected results	2021 results
<p>Site and system security accreditations:</p> <ul style="list-style-type: none"> ○ Ensure the definition and implementation of the appropriate security accreditation activities for achieving the approval to operate communications, information systems and sites, as well as the maintenance of extant accreditations. ○ Monitor the implementation of SECOPs for CIS and auditing the systems. <p>Hosting and configuration management: prepare for, ensure and maintain technical operations support to provide site hosting and ICT means necessary for the core missions of the GSMC and its staff. Provide a continuity of hosting services through building maintenance and extra request management related to the evolution of the facilities and IT:</p> <ul style="list-style-type: none"> ○ Facilities management (Hosting Services) ○ Supporting ICT systems (Operational Systems First Line Maintenance) ○ GSF equipment management (Technical Operations General). 	<p>Site and system accreditation Existing accreditation certificates were maintained and a growing pipeline of future systems was managed:</p> <ul style="list-style-type: none"> - The security accreditation data pack documents for the GSMC-FR Building 123 Site Accreditation Milestone (SAM) have been maintained; the Data pack for Building 132 SEC SAR is being prepared; - The security accreditation data pack documents for the GSMC-ES Site Accreditation Milestone (SAM) have been maintained; the Data pack for Building E6 SEC SAR has been prepared; - Produced the GSF and SOIF inputs for the SB 1.7 ATO; - GRON v1.1 received the Pre-ATO certificate and Subscribers' sites authorisation to connect from SAB; - Management of access control for all users of OPE and VAL chains of GSF, the SINA MN, the GSUE, the CSIRT, the GRON; - Security incident management for the IT systems. <p>Hosting and configuration management:</p>

Facilities management (relevant hosting services)

- GSMC-FR
 - **Building 123: ongoing hosting services** maintained throughout the year. Three specific contracts were renewed for 12 months: Lot 1 = Multi-technical (maintenance and transformation works), Lot 2= Cleaning, Lot 3= Multi-Services. Lot 1 had serious non-performances with peak in Q3 due to departure of two technicians replaced only in Q4. Core services were maintained however by a.i. contractor staff.
 - Building Extension 132:** Participation with the French Ministry of Defence to the new building project for GSMC master site in Saint-Germain-en-Laye. The GSMC supported detailed design activities, in particular related to security and building management systems, and signed in December 6 contracts covering the bulk of EUSPA deliveries to allow use of the building (furniture tables/cupboards chairs, conviviality, meeting rooms audio visual needs). Those will be deployed in Q2 and Q3 2022 in parallel of the technical site acceptance review planned in July 2022 and the security acceptance planned in September 2022.
- GSMC-ES:
 - **Building E2:** Ongoing services maintained throughout the year. As well as support the site as an operational Back-up throughout the year and as the operational master during the Business Continuity site handovers, triggered in May and September 2021.
 - **Final Configuration building E6:** The GSMC supported INTA regarding progress questions and answers. The TEC SAR milestone originally planned in 2020 has been postponed to 2021 due to delays in deployment of some interior building systems. A partial successful TEC SAR review was held in June 2022 with follow-up until Dec 2021. TEC SAR close out actions (following building

			completion and testing planned for March and April 2022) and SEC SAR is scheduled in May 2022.
Indicators	Targets		2021 results
	Number of accreditation certificates in valid standing.	19	19
	Number of expected accreditation requests.	10	10
	Percentage of data-packs timely released for accreditation requests (new or renewals) against annual plan baseline schedule.	100%	100%
	Other indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED.	Same as previous year	100%
Planned outputs			Actual outputs
Outputs relating to the multi-annual work programme objectives:			<ul style="list-style-type: none"> • Site and system security accreditation <ul style="list-style-type: none"> ○ Local Site SecOps produced/updated for the GSMC-ES E6 building Security Site Milestone. ○ Prepared the data pack for the GSMC-FR Site Accreditation Milestone & Site Approval To Operate (SATO) renewal. ○ Prepared the data packs for the accreditation of the GSMC systems part of SB 2.0 (GSF 3.0.1, SECMON 3.0.1, CSIRT 2.0). ○ Prepared the data pack for the ATO renewal for the systems deployed on the GSMC-FR site (requests, SecOps implementation reports, residual risks reports). ○ Prepared the data pack for the GRON v2 pre-ATO (security needs, business impact assessment, security risk analysis, SecOps, security policies) and for the subscribers authorisation to connect
<ul style="list-style-type: none"> • Site and system security accreditation <ul style="list-style-type: none"> ○ Security Risk Analysis, CIS and sites security accreditation data-pack followed by Authorisation to Operate, security accreditation plan updated, SECOPs maintained, periodic audit reports ○ Access granted or denied to staff, staff security briefed • Hosting ICT: ICT systems used for GSMC operations (and validation) maintained in operational conditions <ul style="list-style-type: none"> ○ Hosting facilities: services delivered to users and in support of ICT, in-line with expected service levels 			

	<ul style="list-style-type: none"> ○ Prepare the data packs for the security accreditation systems deployed on the GSMC-ES site. ○ Contribution to the periodic reports. ○ IT systems users access management. ○ IT systems security incidents management and reporting. <ul style="list-style-type: none"> • Hosting <ul style="list-style-type: none"> ○ France and Spain Early Configuration buildings: Facility maintenance ensured in 2021. ○ France: specific contracts for facilities management, maintenance and services managed and renewed. ○ Spain: E6 TEC SAR partial success. SEC SAR scheduled May 2022.
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Objective 4: Ensure achievement of GSMC management processes (WBS 4.06.04)	
Expected results	2021 results
<p>Management of the organisation and communication:</p> <ul style="list-style-type: none"> • Organise activities to ensure the GSMC milestones are achieved on time using available resources while also ensuring the reliability of information and its timely dissemination • Lead the organisation by providing a clear strategy <p>Integrated Management System and Product Assurance:</p> <ul style="list-style-type: none"> • Guarantee maintenance of GSA ISO 9001 certification, including adaptation to ISO 9001 evolutions 	<p>Management of the organisation and communication</p> <p>A strategy has been defined to comply with objectives of the deployment of new GSMC versions according to the future enhanced services declaration. As a consequence, engineering and operations activities were reinforced to ensure the preparation and implementation of these related milestones and activities.</p> <p>Weekly team meetings and coordination meetings were held throughout 2021 to coordinate activities within and between teams, and an accurate reporting process was put in place to ensure efficient communication and coordination.</p>

<ul style="list-style-type: none"> Coordinate PA/QA RAMS activities related to EC-GSA Delegation Agreements in line with GSOp, GSC and GRC requirements Support the activities of the ARB, NRB, and CCB <p>Risk and business continuity and disaster management:</p> <ul style="list-style-type: none"> Risk management: identify potential risks that could impact the proper functioning of the Galileo programme and undertake relevant actions to mitigate those risks Business continuity and disaster: in case of service breach, ensure availability and continuity of services in a reduced functionality mode <p>Health and safety management:</p> <ul style="list-style-type: none"> Implement GSA policy relating to health and safety at work, provide and maintain a safe work environment for staff, visitors and contractors <p>Resolution and continuous improvement management:</p> <p>Ensure that problems and actions for improvement are identified and handled until the business cases are delivered to the Change Approval Board for implementation and/or the non-conformance is solved</p>	<p>GSMC Weekly report was regularly delivered throughout 2021, to highlight the progress in the work programme and ensure full alignment between the different teams at GSMC, also providing an overview of the ongoing activities to Management.</p> <p>A regular Monthly reporting process was also ensured, to inform EUSPA and EC stakeholders on advancement of all activities at GSMC.</p> <p>Integrated Management system</p> <p>A quality system at GSMC is compliant with the EUSPA IMS. The quality system was part of the successful EUSPA ISO 9001 annual audit was performed in September 2021.</p> <p>Anomaly Review Board (ARB): 68 ARS opened and 100 ARS were closed for the Change Control Board (CCB), 100 CCRS were closed and 86 were raised in 2021.</p> <p>Risk and business continuity and disaster management</p> <p>Ongoing: Risk management contributions into overall EUSPA managed risks anomaly review process.</p> <p>Risk and business continuity and disaster management</p> <ul style="list-style-type: none"> Risk management: potential risks identified, actions to mitigate defined; <p>Health & Safety management:</p> <p>At the GSMC, the Agency continued to implement actions to maintain a safe work environment for all staff members, visitors and contractors despite COVID-19.</p> <p>Resolution & continuous improvement management</p> <p>The Agency ensured the chairmanship of the related ARB as well as those of the GMS and Galileo Control Segment (GCS).</p>
<p>Ind</p> <p>ica</p> <p>Quality: Percentage of audit performed /planned</p> <p>According to the EUSPA internal audit plan 2020</p>	<p>2021 results</p> <p>Achieved</p>

Other indicators for this objective are marked as RESTREINT-UE/EU RESTRICTED.	Service Level Targets (R-UE/UE-R)	Achieved
	<p align="center">Planned outputs</p> <p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Management of the organisation and communication: planning execution, budget metrics • IMS: ISO 9001 certification • Health and safety management: Document Unique d’Evaluation des Risques professionnels, Plan de prévention (according to French regulation) • Risk and business continuity disaster management: <ul style="list-style-type: none"> ○ Risks are monitored and controlled ○ GSMC business continuity plan updated and tested • Resolution of anomalies and continuous improvement: Anomalies (problems) and NCR solved, effective PA organisation, service evolution roadmap 	<p align="center">Actual outputs</p> <ul style="list-style-type: none"> • Reporting on the progress of the GSMC activities (achievement of milestones), periodically report on local security operations and engineering processes status: quarterly reports, monthly report and weekly report released. • Integrated management system: ISO 9001 yearly audit done in September 2021. • Health & safety management: <i>Document Unique d’Evaluations des Risques professionnels, plan de prévention</i> (according to the French regulation), including COVID-19 annex: <ul style="list-style-type: none"> ○ COVID-19 <ul style="list-style-type: none"> ▪ 9 GSMC notes on local COVID-19 related measures (GSMC-FR and GSMC-ES updates to be consistent with the evolution of the COVID-19 outbreak. ○ <i>Plans de Prévention:</i> <ul style="list-style-type: none"> ▪ Securitas: 02/07/2020 ▪ Gepsa: 01/02/2021 ▪ WP2: 09/04/2021 ▪ Altempo: 29/01/2021 ▪ IP Energy: 29/01/2021 ▪ CGI: 29/01/2021 ○ Document Unique d’Evaluations des Risques professionnels <ul style="list-style-type: none"> ▪ Updated: 02/07/2021 ▪ <i>Plan de prévention:</i> 100% implemented with COVID-19 updates ▪ <i>Ad-hoc documents (protocole sécurité; visites préalables)</i> • Risk and business continuity disaster management <ul style="list-style-type: none"> ○ Risks are monitored and controlled.

	<ul style="list-style-type: none"> ○ Business continuity plans were drafted and validation simulations were completed. ● The continuous improvement is done through the Operating Procedures Working Group for the GSF part and the internal GSMC CCB concerning all the improvement proposed in term of processes or tools.
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Objective 6: Ensure local security on GSMC sites (WBS 4.06.06)	
Expected results	2021 results
<p>Local security: prepare for, ensure and maintain the local security operational support needed to protect EU classified information present on site and its assets.</p> <p>Registry control management: handling and storage of classified documents, management of EUCI registry, ensuring the timely on- and off-site EUCI back-ups, briefings on EUCI handling.</p> <p>Local security management: ensure the physical security of people, properties, facilities, activities and information; manage access control; and coordinate with guarding support, services contractors, site and local authorities.</p> <p>COMSEC management and crypto management and operations: Manage COMSEC/crypto procedure evolutions and validations. Ensure reception, preparation and shipment of crypto items to or from crypto accounts and users, destroying crypto material, performing PKI, non-PRS keys and SINA VPN management and operations.</p>	<p>Local security management maintained throughout the year. Procurement of guarding framework contract FR done. The local security is maintained 24/24 and 7/7. This task is assumed by the LSO and the security guards (team of 2 or 3 guards – H24). The framework contract is done and consecutively a new guarding contract has been launched in February 2019 for 4 years (4 specific contracts of 1 year each).</p> <p>EUCI registry management maintained throughout the year, with delegated actions performed by GSMC operators for all actions requiring operational 24-hour reactivity.</p> <p>COMSEC:</p> <ul style="list-style-type: none"> - COMSEC procedures version update and validation for P2.2.1. - As part of the PRS Key Management – PRS deliveries to CPAs were successfully performed. - GRON SINA COMSEC procedures have been performed. - GSMC COMSEC transportations ensuring secure transfers of COMSEC items; - SPECTRA phones key renewal and replacement.

			<ul style="list-style-type: none"> - L1 COMSEC maintenance of COMSEC items located on both sites in accordance with the COMSEC Maintenance Plan. - COMSEC briefing and authorisation renewed.
			2021 results
Indicators	100% Staff follows the annual awareness on Security, health and safety (incl. Comsec if required)	100%	Not Achieved: 77/82 contractors briefed (93%); 35/47 staff briefed (75%) due to COVID-19 situation and teleworking.
	All security incidents are instructed and reported	100%	Achieved
	EUCI are audited each month	12 audits/year	Achieved
	Annual EUCI and COMSEC audits	1 audit/year	Achieved
Planned outputs			Actual outputs
Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> • Local security office <ul style="list-style-type: none"> ○ Implement security measures in B132 ○ To be trained to ACS/BMS systems B132 ○ Specific contract n°4 year – latest specific contract of the framework contract ○ Tender for guarding contract ○ Implementation of a new framework guarding contract in February 2023 for 4 years (4 specific contracts) ○ Team of the guards: <ul style="list-style-type: none"> ○ 2 to 3 for the current period; ○ Implementation of the new building 132: <ul style="list-style-type: none"> ▪ guards H24 for the period post TEC SAR; ▪ 4 to 5 for the period post SEC SAR • Registry control management <ul style="list-style-type: none"> ○ Up-to-date registry^[1] (successfully audited) 			Local security office <ul style="list-style-type: none"> ○ Access control System (ACS) managed continuously, access control reports summaries, access control list maintained. All actions concerning the ACS are done in compliance with the rules. ○ Monthly reports of guarding support services contractors. ○ This task is done each month and an annual report is also written. The reports are uploaded each month in order to assure the effective payment of the invoice concerning the guarding contract. <ul style="list-style-type: none"> • Registry control management

<ul style="list-style-type: none"> ○ Classified information managed according to procedures – incidents managed ○ Staff EUCI briefed ○ EUCI backed up (on- and off-site) <ul style="list-style-type: none"> ● COMSEC and crypto management <ul style="list-style-type: none"> ○ Up-to-date account registry (successfully audited) ○ Transportation plans executed ○ Crypto assets and keys managed according to procedures – incidents managed ○ Key and certificates timely renewed SPECTRA phones key renewal and replacement to be performed in 2022. 	<ul style="list-style-type: none"> ○ Up to date registry and destruction of classified documents when necessary according to EU Classified Information Ordinary Destruction Plan. ○ Audits (yearly)/inspections (monthly): successfully completed. ○ Contribution to bi-monthly security report: done. ○ Training/certification of operators for Registry Control Officer delegated role: carried out as planned. <ul style="list-style-type: none"> ● COMSEC & crypto account management <ul style="list-style-type: none"> ○ GSMC Crypto Account audit, audit report(s) and inventories every three months– done for GSMC France and GSMC-ES. ○ COMSEC incidents reported. ○ COMSEC authorisations renewed. ○ Transfer of the COMSEC items performed in accordance with the approved Transportation Plans. ○ destruction of crypto material performed. ○ Migration to Filkrypto and keys distribution to the concerned users performed. ○ Contribution to bi-monthly security report.
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1.3 Operational Security of EGNSS Components⁵

1.3.1 Tasks until 2023

	Activity	Objective	Year ⁶
1	Threat and risk assessment and analysis	Regular and robust risk assessments of activities to ensure they do not pose a risk to the security of the EU GNSS systems, Member States or the EU.	2021 – 2023
2	Operations security	Provision of security oversight of the programme operators.	2021 – 2023

1.3.2 Highlights for 2021

The Agency ensures the threat and risk assessment for both Galileo and EGNOS. This activity is performed to provide elements in support of the security accreditation decisions to be taken by the SAB in relation to the different authorisation milestones, and also to drive the needs in terms of security treatment plans to manage the identified security risks. As part of the evaluation of security risks, the review of the conditions of operations of the systems, in compliance to the approved security conditions (approved configuration and approved SECOPS) is required.

The preparation of the accreditation dossiers for the SAB decisions is done in accordance with the Security Accreditation Milestones and Schedule (SAMS) document, which is updated and maintained in line with the Programme Schedule and delivered to the SAB as well to support the preparation of upcoming SAB decisions.

During 2021, the security accreditation preparation was impacted by the COVID-19, in a similar way SAB decision making process due to the difficulty to meet physically and to align to the different schedule impacts the Programme suffered, this translated in quite a volatile SAMS and some delays on the original targets. Nevertheless, the main decisions were achieved and main Programme reviews were held using intersite connection classified tools.

⁵ Core task of the Agency since the adoption of the Amendment of the SPD 2021-2023 in May 2021.

⁶ The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

1.3.3 Tasks for 2021

Objective 1: Galileo Threat and Risk analysis			
Expected results		2021 results	
Targets		2021 results	
Indicators	Risk analysis and identification for the Galileo Programme milestones delivery to SAB for decision	<ul style="list-style-type: none"> Initial Service and Infrastructure Extension (SAB#53 Oct21) Initial OS Service Update (SAB#49 Oct21) Initial PRS Service Update (SAB#49 Oct21) OSNMA Public Observation (SAB#49 Oct21) GSC Web Portal Upgrade (SAB#49 Oct21) Launch 11 Authorisation to Launch (SAB#49 Oct21) Launch 11 Authorisation for In Orbit Test IOT (SAB#50 Dec21) Redu IOT Cyber Preliminary Authorisation to Operate (SAB#50 Dec21) GRON v1.1 Authorisation to Operate Update (SAB#49 Oct21) System Build v1.5 Authorisation to Operate (SAB#48 Jun21) System Build v1.7 Preliminary Authorisation to Operate (SAB#47b Jun21) 	
	Delivered as input to any SAB meeting covering: <ul style="list-style-type: none"> Initial Service and Infrastructure Extension Initial OS Service Update Initial PRS Service Update OSNMA Public Observation GSC Web Portal Upgrade Launch 11 Authorisation to Launch Launch 11 Authorisation for In Orbit Test IOT Redu IOT Cyber Preliminary Authorisation to Operate GRON v1.1 Authorisation to Operate Update System Build v1.5 Authorisation to Operate System Build v1.7 Authorisation to Operate Ground Control Segment GCS v3.0 and ENOC Authorisation to Operate 		

	<ul style="list-style-type: none"> • SAR Service Evolution • Validation System Accreditation • HAS infrastructure (GSC v1.3 and HADG) Preliminary Authorisation to Operate • Geodetic Reference Service Provider v1.1 Authorisation to Operate 	<ul style="list-style-type: none"> • Ground Mission Segment GMS v3.0 Authorisation Preopen/OPE data (SAB#49 Oct21) • Ground Control Segment GCS v3.0 and ENOC Preliminary Authorisation to Operate (SAB#47b Jun21)
	Target: 100% decisions achieved	Overall: 81% positive decisions achieved
Galileo Services and System Security Plan Galileo Security Accreditation Milestones and Schedule	Security Plans updated supporting each of the above decisions. <ul style="list-style-type: none"> • V4.0 for SAB#47 • V5.0 for SAB#48 • V6.0 for SAB#49 • V7.0 for SAB#50 	As per above. <ul style="list-style-type: none"> • V4.0 for SAB#47 produced but not delivered officially • V5.0 for SAB#48 produced but not delivered officially • v6.0 on 16 of September • v7.0 on 25 of November
Planned outputs <ul style="list-style-type: none"> - Galileo Services and System Security Plan for SAB#47b, SAB#48, SAB#49 and SAB#50 - SAMS for each SAB meeting 		Actual outputs <ul style="list-style-type: none"> - Galileo Services and System Security Plan for SAB#47b, SAB#48, SAB#49 and SAB#50 - SAMS for SAB#49 and SAB#50

Objective 2: Galileo Operations Security

Expected results			2021 results
Indicators	Targets		2021 results
	Number of Service Exploitation Reviews – security sessions	2 reviews 16 March (SECMON SER #7) 3 November (SECMON SER#8)	100%
	Number of QSPR on GSOp – review of implementation reports	4 reviews 17/02 (QSPR#14) 18/05 (QSPR#15) 2/09 (QSPR#16) 18/11 (QSPR#17)	100%
Planned outputs			Actual outputs
<ul style="list-style-type: none">- Service Exploitation Review security reports, including GSOp and GSMC monthly reports under review- Updated GSOp inputs on the operational security status of the system under GSOp responsibilities, including:<ul style="list-style-type: none">o Verification control status (VCD) to the security baselineo Updated threat scenario coverageo Service Continuity Plan			As per planned outputs

Objective 3: EGNOS Threat & Risk analysis

Expected results			2021 results
Targets			2021 results
Indicators	Number of accreditations		
	Data packages prepared over the number of expected accreditation milestones	<ul style="list-style-type: none"> Comments on SAS V2 draft Early Industrial on sites activities (presentation to the Panel for information on the way forward) EGNOS V2 Accreditation request EGNOS V2 INSPIRE connexion in test authorisation request 	<ul style="list-style-type: none"> Security Accreditation Strategy V2 approved (SAB#47) No negative comment by the Panel (GSAP#74) EGNOS V2 accreditation request accepted by the SAB#49 Authorisation granted by the SAB#50
	EGNOS V3 Services and System Security Plan (including sites)	<ul style="list-style-type: none"> Attendance to the V3 SECKP#2 with invitation of SADEP 	<ul style="list-style-type: none"> 100%
	EGNOS V2 Services and System security plan	<ul style="list-style-type: none"> Organisation and attendance to SEC-EB V2 (4 meeting planned) 	<ul style="list-style-type: none"> 75% (1 CLA meeting cancelled due to COVID-19 pandemics)
	EGNOS V3 +V2 Security Accreditation Milestones and Schedule	<ul style="list-style-type: none"> SAMS maintained and delivered ahead of each SAB with EGNOS at Agenda 	<ul style="list-style-type: none"> 100%
	EGNOS V3 Sites SAR	<ul style="list-style-type: none"> 5 SAR planned 	<ul style="list-style-type: none"> 100%
Planned outputs			Actual outputs
<ul style="list-style-type: none"> The EGNOS Service Evolution Plan – SEP security Annex (now EEXP) The EGNOS V2 and V3 Services and System Security Plan The EGNOS V2 and V3 Security Accreditation Milestones and Schedule 			<ul style="list-style-type: none"> As per the planned output

Objective 4: EGNOS Operations Security				
Expected results			2021 results	
Targets			2021 results	
Indicators	Number of Service Exploitation Reviews – security sessions (EC/Agency QPM)	<ul style="list-style-type: none"> 4 per year 	<ul style="list-style-type: none"> 100% 	
	Number of EGNOS Service Provider Reviews – security sessions	<ul style="list-style-type: none"> Monthly 	<ul style="list-style-type: none"> 80% (few meetings cancelled due to COVID-19 pandemics) 	
	Number of EGNOS GEO Service Providers Reviews – security sessions	<ul style="list-style-type: none"> Not yet implemented in 2021 	<ul style="list-style-type: none"> N/A 	
Planned outputs			Actual outputs	
<ul style="list-style-type: none"> Service Exploitation Review security reports (QIR-Security part) Service Providers reviews MoMs GEO Service Providers reviews MoM (security part) 			<ul style="list-style-type: none"> 100% 100% N/A in 2021 	

1.4 Public Regulated Service (PRS) Activities (WBS 2.03)

1.4.1 Tasks until 2023

	Activity	Objective	Year ⁷
1	PRS management plan	Define the organisational structure and rules for implementing the management of PRS items and PRS information.	2021 – 2023
2	PRS Article 14 implementation report	Submit a quarterly report summarising the management of PRS information, all movements of PRS equipment and the associated cryptographic keys, and security breaches observed in relation to the Specific Arrangement concluded between the EC and the GSA pursuant to Article 14(c) of Decision 1104/2011/EU.	2021 – 2023
3	PRS Article 14 inspections	Perform regular audits or inspections of the Agency's handling of PRS information.	2021 – 2023
4	Risk assessment	Regular and robust risk assessments of PRS activities to ensure they do not pose a risk to the security of the system, Member States or the EU.	2021 – 2023
5	Support to CPAs	Provide technical support to CPAs on the basis of specific arrangements.	2021 – 2023

1.4.2 Highlights for 2021

The Agency carried out the PRS activities entrusted to it by the arrangement concluded between the EC and the Agency pursuant Article 14 (c) of Decision No 1104/2011/EU. In particular, the Agency worked on:

- Implementation of the arrangement concluded between the EC and the Agency pursuant to Article 14(c) of Decision 1104/2011/EU. This includes the implementation and maintenance of all tasks (e.g. PRS information handling, etc.) the Agency is required to perform⁸ to ensure compliance with the PRS framework.
- The implementation and maintenance of the functionalities which would be required by the Agency for the performance of activities in support to other CPAs, including the set-up of relevant

⁷ The year indicates when the Agency expects to perform that action. These dates are correct as of time of writing and are based on the current plans.

⁸ The requirements set out in the arrangement concluded between the EC and the Agency pursuant to article 14(c) of Decision 104/2011/EU need to be enforced for both core operations (e.g. Accreditation, GSMC) and any delegated activity related to the PRS.

arrangements, development of relevant processes and tools and maintenance of required infrastructure (e.g. tools), in order to enable the Agency to perform those tasks (CPA functionality or CPA technical assistance) that can be entrusted to it by virtue of Article 5 of the PRS decision⁹.

The study for the set-up of the relevant functionalities was performed. This included an analysis of the required resources and relevant arrangements, the development of relevant processes and tools, and the maintenance of the required infrastructure (e.g. tools) to enable the Agency to perform tasks that can be entrusted to it by virtue of Article 5 of the PRS Decision.

⁹ The cost of functioning is not part of the Agency's expenses.



1.4.3 Tasks for 2021

Objective 1: Implement PRS Article 14c arrangement (WBS 2.03.06)			
Expected results		2020 results	
<p>This objective includes all activities related to managing the implementation of the EC-GSA arrangement pursuant to Article 14(c) of the PRS Decision, in particular regarding the different reporting streams, compliance checks and associated risk assessments. This objective also implements the provisions related to the Agency's access to PRS information.</p> <p>This activity includes:</p> <ul style="list-style-type: none"> • Preparing and maintaining the PRS management plan (and the related PRS information management plan (PIMP) and PRS key management policy (KMP)) defining the organisational structure and the rules for implementing the management of PRS items and PRS information • Reviewing the Article 14(c) arrangement (if required) • Preparing Article 14(c) quarterly implementation reports and delivering them to the Commission • Carrying out regular inspections of the departments within the Agency dealing with PRS items and PRS classified information • Performing regular risk assessments (monthly) • Analysing those EUSPA activities requiring the processing of PRS items and PRS information to ensure compliance with Article 14(c) arrangement • Maintaining PRS items and PRS information database and drafting a report summarising movements, requests and security breaches associated with the PRS items/PRS information under the responsibility of the Agency 		<p>This objective continued from the previous year.</p> <p>A review of the PRS management plan (and related PRS Information Management Plan and Key Management Policy) has been performed with the aim of covering an enlarged set of activities related to the handling and using of PRS items by the Agency. An authorisation to perform some of the activities foreseen by Article 14(c) arrangement has been received from EC (needed for the close-out of ongoing procurements and contracts and the management of related PRS items).</p> <p>The high level of compliance with the Article 14 arrangement has been maintained throughout 2021. The PRS management plan and linked documents (including the PRS Information Management Plan and the associated PRS Need-to-Know policy) have been reviewed and updated to incorporate improvements and lesson-learned.</p>	
		2021 results	
Ind	ica	Targets	
	Timely review of PRS information management plan	100%	The Agency reviewed the PRS information management plan internally for approval.



Level of compliance with Article 14	100%	Compliance: 94% Partial Compliance: 6% Non-Compliance: 0%
Planned outputs Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> Quarterly Article 14 implementation report sent to the EC 		Actual outputs Outputs relating to the multi-annual work programme objectives: <ul style="list-style-type: none"> Quarterly Article 14 implementation reports sent to the EC summarising management measures, movements and security breaches associated with the PRS items/PRS information under the responsibility of the Agency

1.5 Communication, Promotion and Marketing of the Services (WBS 5.02, 5.03, 1.03.01)

1.5.1 Tasks until 2023

	Activity	Objective	Year
1	Market and technology monitoring, including cooperation with receiver manufacturers.	Be the source of competence in GNSS and Copernicus market and technological developments. Output of the objective is the publication of GNSS market and technology report.	2021 - 2023
		Support chipset and receiver manufacturers in implementing EGNSS. Output of the objective is the List of receiver manufacturers with Galileo and EGNOS capability.	
2	User scheme management	Build user experience and satisfaction; implement user feedback in the evolution of EGNSS. Actions to be undertaken are: <ul style="list-style-type: none"> ○ Include user input in the evolution of the mission requirements document. ○ Create EGNSS user support improvement plan based on feedback from downstream user sectors and their value chains. ○ Monitor user satisfaction of EGNSS services and performance. ○ Define the Galileo GSC and EGNOS (ESSP) support improvement plan based on feedback from downstream user sectors and their value chains. 	2021 - 2023
3	Market development by user segment (Agriculture, Forestry, Fisheries and Aquaculture, Urban Development and Cultural Heritage, Insurance and Finance, Infrastructures, Road and Automotive, Aviation and Drones, Rail, Maritime and Inland Waterways, Energy and Raw Materials, Environmental Compliance, Climate and Weather Services, Biodiversity, Ecosystems and natural capital, Emergency Management and Humanitarian Aid, Consumer Solutions, Health and Tourism, Space, Governmental and Security.	Identify needs and opportunities for services and applications. Actions to be undertaken are: <ul style="list-style-type: none"> ○ Management of user fora and consultation platforms on user needs per segment. Support standardisation and certification activities.	2021 - 2023
		Maximise market uptake of EGNSS and Copernicus by value chain and its availability to users designing and implementing market uptake synergies by segment	

4	Development and implementation of targeted communication initiatives, as well as campaigns for the general public.	<p>Management of effective and efficient communications strategy and initiatives, including the new segments part Copernicus. Actions to be undertaken are:</p> <ul style="list-style-type: none"> ○ Participate in conferences and exhibitions and organise targeted events ○ Create and disseminate high quality, tailored content. ○ Manage active, internet-based communications via websites, social media, newsletters, etc. ○ Production and targeted distribution of informative, timely and relevant print, video and multi-media materials. ○ Seize opportunities for organising effective, tailored public, media and stakeholder relations activities. 	2021 - 2023
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1.5.2 Highlights for 2021

The evolution from GSA to EUSPA involved many areas with new core and delegated tasks taken onboard in the area of market and user uptake, extended to Copernicus and GOVSATCOM, as well as in the area of innovation with the new entrepreneurship initiative CASSINI. In line with the new mandate, regarding Copernicus, the Agency worked in cooperation with the Commission, to define a market uptake strategy and a market segmentation to better exploit the synergies among different space programmes.

In addition to this, the Agency also coordinated with the Copernicus Entrusted Entities for the development of new markets.

Regarding GOVSATCOM, the user consultation process has been started with use cases and requirements for secure satellite communications collected.

Regarding CASSINI, EUSPA started to work closely with the Commission to implement several actions.

The Agency continued working to further strengthen Galileo and EGNOS market uptake all over the Union and worldwide with almost 2,5 billion users reached by the end of the year.

And in parallel, EUSPA worked closely with the market community (users, operators, receiver manufacturers). As a result, the E-GNSS market penetration is constantly increasing.

The Galileo differentiators progressed further in 2021. In addition to SAR Return link, the Open Service Navigation Message Authentication (OSNMA) internal testing phase (Phase 1) was launched and successfully

concluded. Also, the OSNMA has been prototyped in several platforms, including the first close-to-market user terminal and already tested during the public observation phase.

An important achievement in 2021 has been the publication of the High Accuracy Service (HAS) Info note and the organisation of the HAS testing campaign, involving major European receiver manufacturers.

Preparation activities continue for other new services including the Commercial Authentication Service, the Emergency Warning Service, the SAR/Galileo Remote Beacon Activation Service and the use of Galileo for Safety of Life applications.

Regarding the consumer solutions segment, the Galileo penetration grew constantly, capitalising on the partnership established by EUSPA with leading manufacturers and focused testing campaigns. By the end of 2021, there were in the market 991 different Galileo compatible smartphone/tablet models, over 100% more than those available by end of 2020 (579). And the increase registered in the number of dual frequency enabled smartphones models was even more sharp passing from 125 models in 2020 to 243 in 2021.

Within the road segment, EGNOS and Galileo are activated in 15 Mill cars in Europe, more than 200 car models from 59 car brands, powered by the EU eCall regulation, with the vast majority of automotive suppliers having solutions in the market.

With regards to the rail segment, Galileo continues to celebrate adoption success within non-safety critical railway applications, with more than 150,000 telematic devices already mounted on the railway wagons in EU. European parliament within its resolution on Railway safety and signalling, acknowledged the role of GNSS in rail signalling, calling on the EU rail stakeholders to close the residual gaps and speed up the adoption of GNSS in ERTMS.

In public transport, cooperation has been established with UITP (International Association of Public Transport) and its standardisation bodies with the aim to include Galileo in the technical specifications used by the public transport.

The use of EGNOS has continued to grow as available operational procedures resulted in 804 in 426 airports. 64% of all European instrument runway ends rely on EGNOS.

In 2021, EUSPA supported the evolution of Search and Rescue on the air. From the user terminal perspective, the first commercial ELT-DT beacon worldwide was developed, implementing Galileo Return Link. It responds to the new aviation safety mandates to enhance global aircraft tracking, following the MH370 and AF447 accidents. The beacon has been already selected by the aircraft manufacturer Airbus for compliance with the

applicable regulation and will be installed in all its commercial aircraft programs, including the A220, A320 family, A330 and A350.

The drone application market has been unaffected by the crisis and over 182 drone receiver models from 44 manufacturers with EGNOS and/or Galileo capabilities are already available in the market, representing more than 30% of receiver models used for drone's navigation.

In the maritime domain, after Galileo recognition as part of Worldwide Radionavigation Systems (WWRNS), the number of Galileo-enabled receiver's models further increased with 43 global manufacturers.

In the agriculture domain, almost all new tractors in Europe using GNSS are now equipped with EGNOS, the preferred low-cost entry technology for precision farming in Europe, while around 69% of GNSS receiver models for agriculture applications are Galileo capable.

Regarding Geomatics and urban development, the high level of adoption of EGNOS and Galileo in geodetic grade receivers was maintained.

For the Timing and Synchronisation market, the development of a European Galileo based multi frequency receiver suitable for the critical infrastructure was successfully concluded.

During 2021 EUSPA was working on publishing the brand-new Earth Observation (EO) and GNSS Market Report, a major tool for European companies and investors. across 17 market segments.

EUSPA also worked on the Governmental Market Report (GMR) for GNSS, that complements the EO and GNSS Market Report and is focused on the market opportunities for the governmental sector.

As follow up of the User Consultation Platform held in 2020, the feedback gathered during the meetings were analysed and the User Requirement Reports were published in 2021. The Agency also started the preparation of the extended consultation platform to the other space programme components with parallel fora, namely Aviation and Drones, Maritime & fisheries, Emergency & humanitarian aid, Insurance and Finance, Infrastructure (including 5G optimisation), Energy and Raw materials, Consumer solutions (including Tourism, healthcare).

Regarding outreach, large promotion campaigns (social media, press, animations) have been developed for myEUspace Competition and the launch of the 1st Horizon Europe Call. For example, the social media campaign launched for myEUspace Competition allowed the reach of 1.7Million citizens. The dedicated page for the Competition has been visited by more than 5000 viewers.

1.5.3 Tasks for 2021

Objective 1: EU space programme components market development in aviation and drones (WBS 5.02.05 and 5.03.05)	
Expected results	2021 results
<ol style="list-style-type: none"> 1. Aviation and drones market and user technology understood and fully analysed and Aviation and drones user needs updated and analysed 2. Penetration of EGNOS/Galileo in receiver models for aviation and drones ¹⁰ 3. Support to aviation and drones companies commercialising EGNOS/Galileo products 4. Technical support, and CBA to airports/heliports, Air Navigation Service Providers (ANSP), airspace users on implementing LPV/LPV 200/PinS/RNP 0.3, in support of the implementation of EU Regulation 2018/1048, which lays down airspace usage requirements and operating procedures concerning performance-based navigation and towards an integrated CNS strategy 5. Demonstrate EGNOS/Galileo's added value for drones operations and U-Space and integrate differentiators (e.g. OS-NMA) in receivers/UTM (navigation, surveillance, combination with other technology) 6. EGNOS and Galileo user satisfaction survey completed 7. EGNOS and Galileo adoption roadmap for aviation updated and agreed with stakeholders (including DFMC) 8. Preliminary roadmap designed for the adoption of Copernicus data in aviation and drones (e.g. the improvement of air traffic management, turbulences impact in route and 	<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New EUSPA Market Report finalised. The model of aviation in the market monitoring and forecasting process has been modified and updated including a new segmentation and applications; 2. Report on increased EGNSS (including EGNOS and Galileo) penetration completed and published on the Market Report. Updated database on EGNOS cable avionics available on the EGNOS user support website. Updated list of EGNOS/Galileo capable user devices available in useGalileo.eu; 3. User relationship management strengthened, via partnership with main user associations (commercial, business, regional airlines and general aviation). Guidelines to use EGNOS/Galileo in drone applications developed and published within the myGalileoDrone competition. FLAG working group on helicopter operations consolidated and webinars to support users on implementation of operations; 4. Updated Cost Benefit Analysis (CBA) tool to compute environmental benefits due to EGNOS operations in aviation published in the EGNOS user

¹⁰ Analysis based on internal GSA Technology Monitoring Process and the GNSS Users Technology Report issue 2 and related assumptions included in Annex 5.

approaches, airport infrastructure planning and operations management, Search and rescue) contributing to the priority ecosystem “Mobility-Transport-Automotive”.		<p>support portal. CBAs and traffic assessments offered on demand to airports, ANSPs and operators;</p> <p>5. The EGNOS/Galileo added value for drone navigation started in intensive flight campaigns with more than 200 flights, also in cooperation with drone receiver manufacturers, including urban air mobility scenarios. Draft proposal for RNP specification for drone operations tested;</p> <p>6. EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched;</p> <p>7. New uses of EGNOS and Galileo: New GNSS Working group for general aviation established with the objective to facilitate GNSS based Instrument flight procedures for general aviation. As a result, Safety Assessment Guidelines for the implementation of EGNOS-based instrument approaches to non-instrument runways, developed jointly by EUSPA and EASA with the support of CAAs and airspace users (published in EUSPA and EASA websites in November 2021). New standard on remote beacon activation using Galileo RLS published (ED-277), as concept for operations responding to a new use need, and triggering a proposal for a new Galileo service concept. Benefit analysis for the use of EGNOS V3 developed as input to AEOLUS;</p> <p>8. Preliminary roadmap designed for the adoption of Copernicus data in aviation and drones.</p>	
		Targets	2021 results
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	1. % of Galileo prototype receivers for navigation in aviation	30	30% of drone receiver models with Galileo capabilities
	2. a) Number of companies commercialising EGNOS/Galileo products	150	150

b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
3. a) Annual tracking of EGNOS based procedures	700	804
b) Annual tracking of EGNOS capable airlines and avionics	18%	23.66%
5. Penetration of EGNOS and Galileo in drone receivers and added value demonstrated	30%	30%
6. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 100% EGN: 96%
7. Updated roadmap for EGNOS/Galileo in aviation (Strategy for DFMC, ARAIM)	1	1
8. % design of the roadmap for Copernicus data adoption	10%	10%
Planned outputs		Actual outputs
<ol style="list-style-type: none"> Aviation and drones section of the market report published in 2021/2023 and technology report published in 2022 and Report on aviation and drone user needs and requirements updated Report on Galileo penetration in aviation and drone receivers <ol style="list-style-type: none"> Industry database for aviation Coordinated work plans to foster EGNOS and Galileo in aviation with key stakeholders: EASA, SESAR JU, SESAR Deployment Manager (SDM) 		Outputs relating to the multi-annual work programme objectives: <ol style="list-style-type: none"> Aviation and drones section of the market report finalised in 2021 and Report on aviation and drone user needs and requirements updated; Galileo receivers for drones, general aviation and SAR updated, EGNOS penetration in aviation receivers updated; <ol style="list-style-type: none"> Industry database publicly available in the useGalileo website and EGNOS support portal;

<ul style="list-style-type: none"> a. EGNOS approach procedures b. Report on Galileo and EGNOS penetration in EU airspace users, report on available avionics <ol style="list-style-type: none"> 5. Updated list of receivers with EGNOS and Galileo for drones published on Galileo websites and report on demonstrations. 6. Results of User Satisfaction surveys 7. Updated adoption roadmap validated with stakeholders and EC 8. Preliminary adoption roadmap of Copernicus use in Aviation and Drones, contributing to the priority ecosystem “Mobility-Transport-Automotive”. 	<ul style="list-style-type: none"> b) EUSPA coordinates the Aviation Taskforce with EASA, DG-MOVE and DEFIS and work closely with Eurocontrol and SESAR Joint Undertaking; EUSPA-EASA working group on General Aviation consolidated and delivered Guidelines on safety assessment for LPV to non-instrument runways; <ol style="list-style-type: none"> 4) <ul style="list-style-type: none"> a) Annual tracking of EGNOS approach procedures (804 by end of 2021); b) EGNOS penetration in operators updated and EGNOS/Galileo penetration in receivers, including drones updated; 5) List of Galileo and EGNOS avionics (including drones and aviationSAR beacons) available on EGNOS and UseGalileo portal; 6) EGNOS and Galileo user satisfaction survey results published; 7) Updated roadmap for adoption, including GBAS DFMC. Benefit analysis for SBAS DFMC developed. New aviation applications analysed in the new market report and market monitoring and forecasting tool; 8) Identification of main applications, gaps and user requirements for the preliminary roadmap for adoption of Preliminary roadmap designed for the adoption of Copernicus data in aviation and drones.
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Objective 2: EU space programme components market development in road and automotive (WBS 5.02.04 and 5.03.04)	
Expected results	2021 results
<ol style="list-style-type: none"> 1. Road and automotive market and user technology understood and fully analysed and needs updated and analysed 2. Penetration of Galileo in road chipsets and automotive brands¹¹ 3. Support to road and automotive companies commercialising Galileo products 4. Strategic partnership of EUSPA with key groups of road and automotive stakeholders 5. Technical support (including plan and testing) to smart (digital) tachograph industry for EGNSS adoption, in cooperation with the Joint Research Centre (JRC) 6. Implementation of standardisation/certification process in Cooperative Intelligent Transport Systems (C-ITS) and autonomous vehicles, in cooperation with EC 7. Implementation of the adoption roadmap in autonomous driving 8. EGNOS and Galileo user satisfaction survey completed 9. Preliminary roadmap designed for the adoption of Copernicus data in congestion charging and traffic management applications, contributing to the priority ecosystem “Mobility-Transport-Automotive”. 	<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New EUSPA Market Report developed; 2. Report on increased Galileo penetration completed and published on the Market Report; 3. User relationship management strengthened; 4. Cooperation consolidated with road industry stakeholders (ERTICO, ACEA, ASECAP...) and DG MOVE (new Contribution Agreement signed); 5. Technical support provided to smart (digital) tachograph industry for EGNSS adoption, including cabotage activities; 6. European Telecommunications Standard (ETSI TS 103 300) published on location/timing techniques for the detection of Vulnerable Road Users; CEN/TR 17447:2020 published on GNSS error models for road & automotive applications; the development of positioning standards in CEN focusing on autonomous driving needs (CEN EN16803 series) is in progress. Preparatory actions to launch a GNSS standard for automotive at ISO; 7. Adoption Roadmap in for Autonomous Driving implemented, focussing on regulatory actions: EC Delegated Regulation (EU) 2021/1958 on Intelligent Speed Adaptation (ISA) requires EGNSS compatibility (Nov. 2021) and EC proposal of the ITS Directive update (COM (2021) 813) mandates Galileo OSNMA and Copernicus. (Dec. 2021);

¹¹ Analysis based on internal GSA Technology Monitoring Process and the GNSS Users Technology Report issue 2 and related assumptions included in Annex 5.

		8.	EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched;
		9.	Co-marketing activities with key stakeholders (uBlox, HERE Technologies, IRU etc.) to promote Galileo differentiators.
	Targets		2021 results
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % of Galileo penetration in automotive brands	35%	59%
	3. a) Number of companies commercialising Galileo products	200	155
	3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
	4. Number of partnerships with key road organisations	3	3
	5. Number of smart (digital) tachograph models with OSNMA tested, in cooperation with JRC	2	2
	6. % development of standardisation/certification procedures for GNSS in C-ITS and autonomous driving functions	25%	25%

7. Car makers commercialising autonomous vehicles models with Galileo	2	6
8. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 95% EGN: 100%
9. % design of the roadmap for Copernicus data adoption	10%	25%
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives:		Outputs relating to the multi-annual work programme objectives:
<ol style="list-style-type: none"> Road and automotive section of the market report published in 2021/2023 and technology report published in 2022 and Report on road and automotive user needs and requirements updated Report on Galileo penetration in road chipsets and automotive brands Industry database for road and automotive Membership or MoU with road and automotive organisations Test plan and testing campaigns Draft standards for C-ITS and autonomous driving applications Adoption roadmap for autonomous vehicles Results of User Satisfaction surveys Preliminary adoption roadmap of Copernicus use in congestion charging and traffic management, contributing to the priority ecosystem "Mobility-Transport-Automotive". 		<ol style="list-style-type: none"> Road and automotive section of the market report finalised in 2021; Report on Galileo and EGNOS penetration in receivers and chipsets models in road segment updated; Industry database publicly available in the useGalileo website; Cooperation consolidated with road industry stakeholders and new Contribution Agreement signed with DG MOVE; Test plan agreed for the Annex IC of the Smart Tachograph EU regulation; Standards ETSI TS 103 300 and CEN/TR 17447:2020 published; Strategy on Road and Automotive (focus on Autonomous driving); under implementation, including relevant EU legal acts published; EGNOS and Galileo user satisfaction survey results published; Preliminary roadmap designed for the adoption of Copernicus data, including prioritisation of application areas, such as driving comfort, congestion charging and traffic management.

Objective 3: EU space programmes components market development in Maritime & Inland Waterways (WBS 5.02.02 and 5.03.02)	
Expected results	2021 results
<ol style="list-style-type: none"> 1. Maritime & Inland Waterways market and user technology understood and fully analysed and user needs updated and analysed 2. Penetration of Galileo and EGNOS in Maritime & Inland Waterways receiver models¹² 3. Support to Maritime & Inland Waterways companies commercialising Galileo products 4. Galileo tested in shipborne receivers 5. Galileo timing requirements for R-MODE System established and strategy defined for the inclusion of OS-NMA in fishing vessels receivers and VDES within IALA 6. Coordination established with EMSA, EFCA and FRONTEX for maritime surveillance (collaborative and non-collaborative vessels) in relation to illegal activities (e.g. illegal fishing) and Search and Rescue 7. EGNOS and Galileo user satisfaction survey completed 8. Synergies identified between the use of Galileo services and Copernicus services for Maritime & Inland Waterways activities (e.g. sea and river water level and early flood and tsunamis detection), Coastal and Marine Exploitation and Preservation, Oil and Gas activities, Maritime Surveillance and Search and Rescue 9. Preliminary roadmap designed for the adoption of Copernicus data for Maritime & Inland Waterways, contributing to the priority ecosystem "Mobility-Transport-Automotive". 	<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; 2. Analysis on Galileo and EGNOS penetration in shipborne receivers finalised in Q4 2021; 3. User relationship management strengthened; 4. Galileo ship-borne receivers tested with 5 manufacturers via different funded EU projects and also within a dedicated testing campaign. 5. Galileo Timing Requirements defined. IALA guidelines G-1158 published including requirements for VDES-based R-MODE, highlighting the contribution from Galileo timing and OS-NMA to fulfil the system requirements. 6. Cooperation established with EU maritime-related agencies, via participation in dedicated workshops; 7. EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched; 8. Synergies between Galileo and Copernicus services identified for several application domains (i.e. maritime, inland waterways, emergency and search and rescue); 9. Preliminary roadmap designed for the adoption of Copernicus data in Maritime & Inland Waterways.
Targets	2021 results

¹² Analysis based on internal GSA Technology Monitoring Process and the GNSS Users Technology Report issue 2 and related assumptions included in Annex 5.

Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % of Galileo and EGNOS receivers in overall number of shipborne models Platform (UCP) outcomes	30% for Galileo 90% for EGNOS	37% for Galileo 91% for EGNOS
	3. a) Number of companies commercialising Galileo products	27	43
	3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
	4. Number of shipborne receiver manufacturers engaged in Galileo testing	2 Dual Frequency	3 Dual frequency
	5. Validation with IALA Members	50%	50%
	6. Validation with EMSA, EFCA and Frontex	1	1
	7. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 89% EGN: 100%
	8. Validation with stakeholders	10%	10%
	9. % design of the roadmap for Copernicus data adoption	10%	10%

Planned outputs	Actual outputs
<ol style="list-style-type: none"> 1. Maritime & Inland Waterways section of the market report published in 2021/2023 and technology report published in 2022 and Report on Maritime & Inland Waterways user needs and requirements published in 2022 2. Report on Galileo and EGNOS penetration in maritime receivers 3. Industry database for Maritime & Inland Waterways 4. Agreement with ship-borne receiver manufacturers interested in testing campaign 5. Draft IALA Guidelines on Timing and R-Mode and Guidelines on Cybersecurity and VDES 6. Report on Activities 7. Results of User Satisfaction surveys 8. Report on Synergies 9. Preliminary adoption roadmap of Copernicus use in Maritime & Inland Waterways, contributing to the priority ecosystem “Mobility-Transport-Automotive”. 	<p>Outputs relating to the multi-annual work programme objectives:</p> <ol style="list-style-type: none"> 1. New Market Report finalised in 2021; 2. Report on Galileo and EGNOS penetration in receivers and chipsets models in maritime segment updated; 3. Industry database publicly available in the useGalileo website; 4. Agreement with 5 ship-borne receiver manufacturers for testing; 5. IALA Guidelines G-1158 published; 6. Workshop report within the European Coast Guards Forum (EFCA, EMSA and Frontex); 7. EGNOS and Galileo user satisfaction survey results published; 8. Reports on Synergies for several application domains (maritime, inland waterways, Emergencies and Search and Rescue); 9. Identification of main applications, gaps and user requirements for the preliminary roadmap for adoption of Copernicus data in Maritime & Inland Waterways. Pilot project approved by European Parliament to support standardisation process.

Objective 4: EU space programme components market development in rail (WBS 5.02.06 and 5.03.06)			
Expected results		2021 results	
<ol style="list-style-type: none"> Rail market and application potential understood and fully analysed and Consolidation of user requirements for safety relevant applications and analysis of their impact on EGNSS services Penetration of Galileo and EGNOS in rail receiver models Cooperation and coordination with rail stakeholders and associations EUSPA roadmap for rail signalling implemented and updated EGNSS-based signalling solution on low density lines demonstrated EGNOS and Galileo user satisfaction survey completed Preliminary roadmap designed for the adoption of Copernicus data for rail, contributing to the priority ecosystem "Mobility-Transport-Automotive". 		<ol style="list-style-type: none"> Annual market monitoring, analysis and forecasting performed and Annual Technology monitoring update performed; Cost Benefit Analysis (CBA) for the mature virtual balise concept finalised; Analysis on Galileo and EGNOS penetration in rail receivers finalised with 91% of rail Rx models (non-safety of life) currently at the market were Galileo enabled; User relationship management strengthened – Meeting between EUSPA ED and ERA, Shift2Rail, UIC, and the EU ERTMS coordinator organised in 2021; Implementation of the EGNSS in rail signalling roadmap performed and update version published at EUSPA website; Virtual balise concept use on low density lines demonstrated and architecture agreed by Rail stakeholders in Shift2Rail; EGNOS and Galileo Satisfaction survey for 2021 completed with involvement of the rail stakeholders; Preliminary roadmap designed for the adoption of Copernicus data for rail. 	
		Targets	2021 results
Indicators	1. Validation of market and technology analyses, including UCP outcomes, economical KPI's and CBA results by main stakeholders, users etc	1	1
	2. % of vehicles equipped with EGNSS enabled receivers	20%	50%

3. a) Number of companies commercialising Galileo products	25	25
3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
4. EGNSS in Rail signalling roadmap objectives achieved	70%	70%
5. Demonstrator / pilot operational low-density railway line with EGNSS-based train positioning system certified	80%	80%
6. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 100% EGN: N/A
7. % design of the roadmap for Copernicus data adoption	10%	10%
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives:		Outputs relating to the multi-annual work programme objectives:
1. Cost/benefit analysis for railway signalling application available, Rail section of the market report published in 2021/2023 and technology report published in 2022 and Report on rail user needs and requirements updated		1. GSA Cost Benefit Analysis (CBA) results confirmed business case for EGNSS. Results were shared at several conferences and adopted also within Shift2Rail X2RAIL2 by main stakeholders and users; Rail section of EUSPA Market Report finalised in 2021;
2. Report on Galileo penetration in rail receivers		2. Report on Galileo and EGNOS penetration in rail receivers and chipsets updated;
3. EGNSS based train positioning system architecture and documentation available		3. Architecture documentation for the Virtual balise concept available;
4. Industry database for Rail		4. Industry database publicly available in the useGalileo website;
5. EGNSS in rail signalling roadmap partially implemented and certification plan available		5. EGNSS in rail signalling roadmap updated including the certification part;
6. Results of User Satisfaction surveys		
7. Preliminary adoption roadmap of Copernicus use in rail contributing to the priority ecosystem "Mobility-Transport-Automotive".		

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| | <ul style="list-style-type: none">6. EGNOS and Galileo user satisfaction survey results published;7. Preliminary roadmap designed for the adoption of Copernicus data in rail. |
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Objective 5: EU Space Components market development in Agriculture & Forestry (WBS 5.02.01, 5.03.01)			
Expected results		2021 results	
<ol style="list-style-type: none"> 1. Agriculture & Forestry applications market and user technology understood and fully analysed and user needs updated and analysed 2. Penetration of Galileo and EGNOS in receiver models for Agriculture & Forestry 13 3. Support to Agriculture & Forestry companies commercialising Galileo products 4. Support EGNSS adoption through dedicated awards for innovative integration of EGNSS in high-precision segment 5. Support for implementation of Galileo differentiators with focus on High Accuracy Service 6. EGNOS and Galileo user satisfaction survey completed 7. Preliminary roadmap designed for the adoption of Copernicus data in Agriculture & Forestry, contributing to the priority ecosystem “Agri-food”. 		<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; 2. Galileo and EGNOS penetration increased; 3. User relationship management strengthened and cooperation consolidated with Agriculture stakeholders and paying agencies; 4. Organisation and launch of the myEUspace Farming by Satellite contest; 5. Execution of activities in preparation of the High Accuracy Service testing campaign, including a dedicated Information Note; 6. EGNOS and Galileo Satisfaction survey for 2021 completed and survey for 2022 launched; 7. Preliminary roadmap designed for the adoption of Copernicus data for agriculture and forestry. 	
		Targets	2021 results
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % of Galileo and EGNOS receivers in overall number of models for Agriculture & Forestry	60%/93%	80%/98%

¹³ Analysis based on internal GSA Technology Monitoring Process and the GNSS Users Technology Report and related assumptions included in Annex 5.

3. a) Number of companies commercialising Galileo products	78	136
3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
4. Award of dedicated prizes for innovative integration of EGNSS in high precision, agriculture and forestry applications and/or devices	1	1
5. Number of receiver models implementing HAS	2	5
6. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 95% EGN: 95%
7. % design of the roadmap for Copernicus data adoption	10%	10%
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives: <ol style="list-style-type: none"> 1. Agriculture & Forestry section of the market report published in 2021/2023 and technology report published in 2022 and Report on user needs and requirements published in 2018 and 2020 2. Report on Galileo penetration in Agriculture & Forestry receivers 3. Industry database for Agriculture & Forestry 4. Report describing the metrics and statistics of participant success after award 5. Report on Galileo penetration in Agriculture & Forestry receivers, with focus on High Accuracy Service 		Outputs relating to the multi-annual work programme objectives: <ol style="list-style-type: none"> 1. New Market Report finalised in 2021; 2. Report on Galileo and EGNOS penetration in receivers and chipsets models in agriculture segment updated; 3. Industry database publicly available in the useGalileo website; 4. Information from awarded prizes published and statistics published; 5. Analysis on Galileo penetration finalised; 6. EGNOS and Galileo user satisfaction survey results published;

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| <p>6. Results of User Satisfaction surveys</p> <p>7. Preliminary adoption roadmap of Copernicus use in Agriculture & Forestry, contributing to the priority ecosystem “Agri-food”.</p> | <p>7. Preliminary roadmap designed for the adoption of Copernicus data in Agriculture & Forestry, in collaboration with EC.</p> |
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Objective 6: EU Space Components market development in Urban Development and Cultural Heritage applications (WBS 5.02.03, 5.03.03)			
Expected results		2021 results	
<ol style="list-style-type: none"> Urban Development and Cultural Heritage applications market and user technology understood and fully analysed and applications user needs updated and analysed Penetration of Galileo and EGNOS in receiver models for Urban Development and Cultural Heritage Support to Urban Development and Cultural Heritage companies commercialising Galileo products Support EU Space Programmes adoption through dedicated awards for innovative integration of EGNSS and Copernicus in Urban Development and Cultural Heritage Accelerate upgrade to Galileo in private and public reference networks Support for implementation of Galileo differentiators with focus on High Accuracy Service (HAS) EGNOS and Galileo user satisfaction survey completed Preliminary roadmap designed for the adoption of Copernicus data in Urban Development and Cultural Heritage, contributing to the priority ecosystem "Construction". 		<ol style="list-style-type: none"> Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; Galileo and EGNOS penetration increased; User relationship management strengthened and cooperation consolidated with Urban Development stakeholders; Execution and award of the phase 1 of the Map my World challenge in the myEUSpace competition; Publication of the HAS Info note, collaboration with EUPOS and publication of the augmentation service providers map; Organisation of the HAS testing campaign with external stakeholders. EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched; Preliminary roadmap designed for the adoption of Copernicus data for the construction industrial ecosystem. 	
Targets		2021 results	
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2.% of Galileo and EGNOS receivers in overall number of	59%/93%	82%/98%

models for Urban Development and Cultural Heritage		
3. a) Number of companies commercialising Galileo products	78	136
3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
4. Award of dedicated prizes for innovative integration of EGNSS in high precision Urban Development and Cultural Heritage	1	1
5. Number of RTK/PPP network providers confirming upgrade to Galileo	30	83
6. Number of receiver models implementing HAS	2	
7. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 95% EGN: 95%
8. % design of the roadmap for Copernicus data adoption	10%	10%
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives:		
1. Urban Development and Cultural Heritage section of the market report published in 2021/2023 and technology report published in 2022 and Report on user needs and requirements updated		<ol style="list-style-type: none"> 1. New Market Report finalised in 2021; 2. Report on Galileo and EGNOS penetration in receivers and chipsets models geomatics segments updated; 3. Industry database publicly available in the useGalileo website;

<ol style="list-style-type: none">Report on Galileo penetration in Urban Development and Cultural Heritage receiversIndustry database for Urban Development and Cultural HeritageReport describing the impact success of the awardReport on Galileo implementation in the reference networksReport on Galileo penetration in Urban Development and Cultural Heritage receivers, with focus on High Accuracy Service (HAS)Results of User Satisfaction surveysPreliminary adoption roadmap of Copernicus use in for Urban Development and Cultural Heritage, contributing to the priority ecosystem "Construction".	<ol style="list-style-type: none">Information from awarded prizes of the myEUSpace 1st phase published in 2022;Publication of augmentation service providers map at GSC website;Penetration of Galileo reported. HAS still not available commercially;EGNOS and Galileo user satisfaction survey results published;Preliminary roadmap designed for the adoption of Copernicus data in construction.
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Objective 7: EU space programme components market development Consumer Solutions, Health and Tourism (WBS 5.02.07 and 5.03.07)			
Expected results		2021 results	
<ol style="list-style-type: none"> Consumer Solutions, Health and Tourism market and user technology understood and fully analysed and user needs updated and analysed Penetration of Galileo in smartphones increased¹⁴ Support to Consumer Solutions, Health and Tourism companies commercialising Galileo products Development of innovative mobile applications leveraging EU space programme components EGNOS and Galileo user satisfaction survey completed Preliminary roadmap designed for the adoption of Copernicus data in Consumer Solutions, Health and Tourism, contributing to the priority ecosystem “Digital”. 		<ol style="list-style-type: none"> Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; Certification guidelines published and distributed among notified bodies, in relation to the obligation of Galileo compatibility for emergency call location (e112) certification; User relationship management strengthened and cooperation consolidated with Urban Development stakeholders; New innovative mobile apps developed within hackathons; EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched; Preliminary roadmap designed for the adoption of Copernicus data in Consumer Solutions, Health and Tourism. 	
Targets		2021 results	
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	
	2. % of Galileo penetration in	45%	
		85%	

¹⁴ Analysis based on internal EUSPA Technology Monitoring Process and the GNSS Users Technology Report issue 2 and related assumptions included in Annex 5.

smartphones shipments in Europe		
3. a) Number of companies commercialising Galileo products	125	165
3. b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
4. Number of hackathons and dedicated events/competitions targeting innovative application developers	2	5
5. Positive annual EGNOS and Galileo User Satisfaction survey outcome	>50% of respondents "satisfied" or "very satisfied"	GAL: 83% EGN: N/A
6. % design of the roadmap for Copernicus data adoption	10%	20%
Planned outputs		Actual outputs

<p>Outputs relating to the multi-annual work programme objectives:</p> <ol style="list-style-type: none"> 1. Consumer Solutions, Health and Tourism section of the market report published in 2021/2023 and technology report published in 2022 and Report on user needs and requirements updated 2. Report on Galileo penetration in Consumer Solutions, Health and Tourism receivers 3. Industry database for Consumer Solutions, Health and Tourism derived from UseGalileo 4. News items published on EUSPA website summarising hackathon/competition results 5. Results of User Satisfaction surveys 6. Preliminary adoption roadmap of Copernicus use in Consumer Solutions, Health and Tourism, contributing to the priority ecosystem “Digital”. 	<p>Outputs relating to the multi-annual work programme objectives:</p> <ol style="list-style-type: none"> 1. Consumer Solutions, Health and Tourism section of the market report finalised in 2021; 2. Report on Galileo penetration in Consumer Solutions, Health and Tourism receivers included in the latest Market Report; 3. Industry database for Consumer Solutions, Health and Tourism derived from UseGalileo; 4. News items published on EUSPA website summarising hackathon/competition results; 5. Results of User Satisfaction surveys available; 6. Preliminary adoption roadmap of Copernicus use in Consumer Solutions, Health and Tourism, contributing to the priority ecosystem “Digital”.
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Objective 8: EU space programme components market development in Insurance and Finance, Infrastructures, Energy and Raw Materials (WBS 5.02.08 and 5.03.08)			
Expected results		2021 results	
<ol style="list-style-type: none"> Insurance and Finance, Infrastructures, Energy and Raw Materials market and user technology understood and fully analysed and user needs updated and analysed Penetration of Galileo in Insurance and Finance, Infrastructures, Energy and Raw Materials receiver models¹⁵ Support to Critical Infrastructures companies commercialising Galileo products Support Commission in regulatory actions or technical studies for adopting Galileo in Insurance and Finance, Infrastructures, Energy and Raw Materials Galileo based multi-frequency receiver close to commercialisation Provision Plan of emerging Timing & Synchronisation (T&S) application offerings (i.e. time integrity, trusted time distribution and remote audit, etc.) defined Galileo user satisfaction survey completed Preliminary roadmap designed for the adoption of Copernicus data for Insurance and Finance, Infrastructures, Energy and Raw Materials, contributing to the priority ecosystem "Energy Intensive Industries". 		<ol style="list-style-type: none"> Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; Galileo and EGNOS penetration increased; User relationship management strengthened and cooperation consolidated with Critical Infrastructure stakeholders; Continuous support to EC provided; Galileo Receiver prototype developed with TRL 7; Provision Plan of emerging Timing & Synchronisation (T&S) application offerings (i.e. time integrity, trusted time distribution and remote audit, etc.) defined; EGNOS and Galileo Satisfaction survey for 2020 completed and survey for 2021 launched; Preliminary roadmap designed for the adoption of Copernicus data in Insurance and Finance, Infrastructures, Energy and Raw Materials. 	
Targets		2021 results	
Indicators	<ol style="list-style-type: none"> Validation of market and technology analyses, including UCP outcomes, by main stakeholders 	1	1

¹⁵ Analysis based on internal EUSPA Technology Monitoring Process and the GNSS Users Technology Report issue 2 and related assumptions included in Annex 5.

2. % of Galileo and EGNOS receivers in overall number of Critical Infrastructures models	Galileo 47% EGNOS 46%	Galileo 55% EGNOS 35%
3.a) Number of CI companies supporting Galileo products	33	36
b) Adopters' retention Index (i.e. % of EGNSS adopters that confirm EGNSS usage)	100%	100%
4. Specific support to EC on Critical Infrastructures related activities and studies	100 %	100 %
5. Galileo based multi-frequency receiver commercialisation plan endorsed by stakeholders	0	2
6. Provision plan of emerging T&S application offerings defined	0	1
7. Positive annual Galileo User Satisfaction survey outcome	N/A	>50% of respondents "satisfied" or "very satisfied"
8. % design of the roadmap for Copernicus data adoption	N/A	10%
Planned outputs		Actual outputs
<ol style="list-style-type: none"> Insurance and Finance, Infrastructures, Energy and Raw Materials sections of the market report published in 2021/2023 and technology report published in 2022 and Report on user needs updated Report on Galileo penetration in CI receivers Industry database for Critical Infrastructures 		<ol style="list-style-type: none"> Insurance and Finance, Infrastructures, Energy and Raw Materials sections of the market report finalised in 2021; Report on Galileo penetration in Insurance and Finance, Infrastructures, Energy and Raw Materials receivers; Industry database for Insurance and Finance, Infrastructures, Energy and Raw Materials derived from UseGalileo; Review of documents delivered to EC

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|--|---|
| <ul style="list-style-type: none">4. Deliver supporting materials or review of documents on EGNSS in CI to Commission (on request)5. Galileo based multi-frequency receiver commercialisation plan report6. T&S Application Offering provision implementation Plan Report7. Results of User Satisfaction surveys8. Preliminary adoption roadmap of Copernicus use in Insurance and Finance, Infrastructures, Energy and Raw Materials, contributing to the priority ecosystem “Energy Intensive Industries”. | <ul style="list-style-type: none">5. Galileo based multi-frequency receiver commercialisation plan defined6. T&S Application Offering provision implementation Plan defined;7. Results of User Satisfaction surveys;8. Preliminary adoption roadmap of Copernicus use in Insurance and Finance, Infrastructures, Energy and Raw Materials. |
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Objective 9: EU space programme components market development in governmental use (WBS 5.02.14 and 5.03.14)				
Expected results			2021 results	
<ol style="list-style-type: none"> Market and user technology understood and analysed Support Member States in promoting Galileo PRS within their user communities Preliminary roadmap for integrated governmental services adoption including EGNSS, Copernicus and GOVSATCOM 			<ol style="list-style-type: none"> Governmental Market Report finalised in 2021; Support to Member States provide for the promotion of Galileo PRS within their user communities; Preliminary roadmap for integrated governmental services adoption including EGNSS, Copernicus and GOVSATCOM defined. 	
Targets			2021 results	
Indicators	1.Preliminary report on potential market size of EU Space programme components in governmental applications	N/A	1	
	2.Specific support on PRS user related activities.	N/A	100%	
	3.% design of the roadmap for integrated governmental services adoption	N/A	10%	
Planned outputs			Actual outputs	
Outputs relating to the multi-annual work programme objectives: <ol style="list-style-type: none"> Preliminary report on potential penetration of EU Space programme components in governmental and security applications and user technology Material about governmental services provided by EU Space programme components, including status synergies and supportive actions 			<ol style="list-style-type: none"> Governmental Market Report finalised in 2021; Support to Member States provide for the promotion of Galileo PRS within different workshops, fora and events; Preliminary roadmap for integrated governmental services adoption including EGNSS, Copernicus and GOVSATCOM defined. 	



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| 3. Report on “Preliminary roadmap of an integrated governmental services adoption including EGNSS, Copernicus and GOVSATCOM” | |
|--|--|

Objective 10: EU space programme components market development in Emergency Management and Humanitarian Aid (WBS 5.02.11 and 5.03.11)			
Expected results		2021 results	
<ol style="list-style-type: none"> 1. Main beacon manufacturers implementing SAR return link for maritime applications 2. Concept of Operation defined for the remote activation of EPIRBs in maritime 3. Galileo differentiators "SAR Return Link" implemented in the beacons for aviation applications 4. Concept of Operation defined and demonstrated for the remote activation of ELT-DTs in aviation 5. Emergency Management and Humanitarian Aid market and user technology understood and fully analysed and user needs analysed 6. Preliminary roadmap designed for the adoption of EU Space Programme components for Emergency Management and Humanitarian Aid contributing to all priority ecosystems 		<ul style="list-style-type: none"> • Main beacon manufacturers (7) implemented Galileo return link; • Concept of operation for remote activation defined and validated with EC Working Group on SAR Evolution; • Main beacon manufacturers (2) implemented Galileo return link; • Concept of operation defined and published in Eurocae ED-277. Demonstration; • Market monitoring, analysis and forecasting performed. New Market Report finalised in 2021. User needs for Emergency Warning Service analysed; • Preliminary roadmap designed for the adoption of EU Space Programme components for Emergency Management and Humanitarian Aid contributing to all priority ecosystems. 	
		Targets	2021 results
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % design of the roadmap for EU Space Programme components adoption	10%	50%
	3. Number of maritime SAR beacons including Galileo RLS ready for type approval	5	5

4. Concept discussed with maritime stakeholders	50%	100%
5. Development of the first aviation SAR beacon including Galileo RLS complete	100%	100%
6. Concept of aviation operations defined for the remote activation of ELT-DTs	100%	100%
Planned outputs		Actual outputs
<ol style="list-style-type: none"> 1. Maritime SAR beacons that includes Galileo RLS developed and published on usegalileo.eu 2. Report on concept of maritime operation 3. Aviation SAR beacon that includes Galileo Return Link Service (RLS) ready for type approval and installation certification. 4. Concept of aviation operations for remote beacon activation using GAL RLS for ELT-DT demonstrated and acknowledged by end users. 5. Emergency Management and Humanitarian Aid section of the market report published in 2021/2023 and technology report published in 2022 and Report on user needs and requirements updated 6. Preliminary adoption roadmap of EU Space Programme components in Emergency Management and Humanitarian Aid contributing to all priority ecosystems. 		<ol style="list-style-type: none"> 1. Fastfind Return link, the first beacon in the market. Six models finalising type approval process; 2. Report on concept of maritime operation shared with EC SAREG WG; 3. Kannad ultima-DT and Kannad ultima-Survival; 4. Concept of operation defined and published in Eurocae ED-277. Demonstration; 5. New Market Report finalised in 2021 and published in January 2022. Report on User needs for Emergency Warning Service updated; 6. Identification of main applications, gaps and user requirements for the preliminary roadmap for adoption of EU Space Programme components for Emergency Management.

Objective 11: EGNSS market development in Space Users (WBS 5.02.13 and 5.03.13)			
Expected results		2021 results	
1. Space Users market and user technology understood and fully analysed and Space user needs analysed 2. Support to Space Users stakeholder companies commercialising Galileo products or Copernicus data 3. Preliminary roadmap designed for the adoption of EGNSS in space borne applications 4. Preliminary roadmap for the implementation of entrusted tasks for Space Situational Awareness (SSA)		1. Annual market and technology monitoring, analysis and forecasting performed; 2. Innovative GNSS spaceborne receiver commercialised; 3. N/A 4. N/A	
		Targets	2021 results
Indicators	1.Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. Number of companies commercialising Galileo products	3	2
	3.% design of the roadmap for EGNSS adoption analysed and prioritised	10%	N/A
	4.% design of the roadmap for SSA Programme adoption analysed and prioritised	50%	N/A
Planned outputs		Actual outputs	

1. Space section of the market report published in 2021/2023 and technology report published in 2022 and Report on Space user needs and requirements published
2. Industry database for Space
3. Preliminary adoption roadmap for EGNSS use in space applications
4. Preliminary adoption roadmap for SSA Programme use

1. Annual market and technology monitoring, analysis and forecasting performed. Report on Space user needs and requirements published
2. URDB updated
3. N/A
4. N/A

Objective 12: EU space programme components market development in Fisheries and Aquaculture (WBS 5.02.09 and 5.03.09)			
Expected results		2021 results	
<ol style="list-style-type: none"> 1. Fisheries and Aquaculture market and user technology understood and fully analysed and Energy user needs updated and analysed 2. Preliminary roadmap designed for the adoption of EU Space Programme components for Fisheries and Aquaculture, contributing to the priority ecosystem “Agri-food”. 		<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; 2. Preliminary roadmap designed for the adoption of Copernicus data in Fisheries and Aquaculture. 	
		Targets	2021 results
Indicators	1.Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % design of the roadmap for EU Space Programme components adoption	10%	10%
Planned outputs		Actual outputs	
<ol style="list-style-type: none"> 1. Fisheries and Aquaculture section of the market report published in 2021/2023 and technology report published in 2022 and Report on Energy user needs and requirements published 2. Preliminary adoption roadmap of EU Space Programme components used in Fisheries and Aquaculture applications 		<ol style="list-style-type: none"> 1. Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; 2. Identification of main applications, gaps and user requirements for the preliminary roadmap for adoption of Copernicus data in Fisheries and Aquaculture. 	



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Objective 13: Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital (WBS 5.02.10 and 5.03.10)			
Expected results		2021 results	
<ol style="list-style-type: none"> Environmental Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital market and user technology understood and fully analysed and Environment & Air Quality user needs updated and analysed Preliminary roadmap designed for the adoption of EU Space Programme components in Environmental Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital, contributing to all priority ecosystems. 		<ol style="list-style-type: none"> Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in 2021; Preliminary roadmap designed for the adoption of Copernicus data in Environmental Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital. 	
		2021 results	
Indicators	1. Validation of market and technology analyses, including UCP outcomes, by main stakeholders	1	1
	2. % design of the roadmap for EU Space Programme components adoption	10%	10%
Planned outputs		Actual outputs	
<ol style="list-style-type: none"> 1. Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital sections of the market report published in 2021/2023 and technology report published in 2022 and Report on Environment & Air Quality user needs and requirements published Preliminary adoption roadmap of EU Space Programme components in Environmental Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital, contributing to all priority ecosystems. 		<ol style="list-style-type: none"> Annual market and technology monitoring, analysis and forecasting performed. New Market Report finalised in; Preliminary roadmap designed for the adoption of Copernicus data in Environmental Compliance-Climate and Weather Services-Biodiversity, Ecosystems and Natural Capital. 	

Objective 14: Services, Applications and R&D Communications (WBS 1.03.01)				
Expected results			2021 results	
<p>Communication activities relating to EGNOS and Galileo services and applications for research and development comprise of the following items:</p> <ul style="list-style-type: none"> Increased awareness of EGNOS and Galileo, their high performance and many benefits Increased awareness and understanding of EGNOS and Galileo as a useful feature and enabling technology for application developers, in particular those requiring more precise and reliable Positioning, Navigation and Timing (PNT) information Strengthened communication with user networks and communities Increased awareness amongst innovative enterprises, with a focus on SMEs, who can benefit from leveraging EGNOS and Galileo in their applications, products or services or who can increase the functionality within existing applications by enabling it with EGNSS functionality Increased awareness of the Galileo programme, its role within the global multi-constellation satellite navigation system, and the benefits of its services 			Achieved	
Targets			2021 results	
Indicators	YoY (Year on Year) increase of traffic to key event/ media/ social media/ internet touchpoints	10 % increase	Achieved	
	YoY increase in SME base across all GNSS markets and their components	10 % increase	Achieved	
	YoY expansion of EGNOS and Galileo market	10 % increase	Achieved	

Planned outputs	Actual outputs
<p>Outputs relating to the multi-annual work programme objectives:</p> <ul style="list-style-type: none"> • Website creation, maintenance and management • Social media campaigns; publications • Video and multi-media production and distribution • Event creation, participation and management • Media, public relations and stakeholder initiatives • Newsletter production and distribution • Feedback surveys and studies 	<p>Outputs relating to the multi-annual work programme objectives:</p> <p>Websites: EUSPA published 120 web news articles and 11 press releases with half of them being published in all the EU languages. It generated more than 1000 press pickups. The Agency maintains directly www.gsa.europa.eu and www.Usegalileo.eu, www.euspaceweek.eu and supports and contributes to www.gsc-europa.eu and www.egnos-portal.eu.</p> <p>Agency Social Media presence: In 2021, the Agency continued expanding its social media presence, with 23,806 users in LinkedIn, 15,541 in Twitter, 7,224 on Facebook, and 4,449 in Instagram, supporting the production of content and multimedia products tailored for social media.</p> <p>Publications: The release of the “Safety Assessment Guidelines for the implementation of EGNOS-based instrument approaches to non-instrument runways located at aerodromes serving General Aviation”, Galileo Definition Document updates, Galileo services Quarterly Performance Reports, and the SAR/Galileo Service were also widely promoted.</p> <ul style="list-style-type: none"> • Video Production: In 2021 we added 100 new videos to EUSPA YouTube channel, including: <ul style="list-style-type: none"> ○ short animations for social media to promote initiatives and competitions such as MyEUSpace EUSpace4ourplanet. – EUSpace for rail – Celebration of 2 billion Galileo enabled smartphones sold • Virtual events, participation and management: In 2021, several events went still online but traditional events were back. <ul style="list-style-type: none"> ○ We continued to increase the number of webinars (26) for the promotions of calls (Horizon Europe first call for instance) and

- competitions (Launch of MyEUSpace). EUSPA attended 18 virtual events/ exhibitions including InfoShare, ITSF and several hackathons including the first Cassini hackathons.
- **EUSPA participated to 70 onsite events focusing on the current market segments and entrepreneurship, including:**
 - Start-up Ole
 - Intergeo
 - WebSummit
 - **Media, public relations and stakeholder initiatives:** Multiple press initiatives on all key developments which created more than 1000 news on the offline and online press in multiple languages.
 - **Newsletter production and distribution:** EUSPA continues to publish weekly newsletter called '*Watch this Space*'. 40 issues were published in 2021 to +10 000 subscribers.
 - **Feedback surveys and studies:** In 2021 EUSPA launched and promoted. the annual EGNOS user satisfaction survey, GSC and Galileo user survey.



1.6 Agency Management (WBS 1)

1.6.1 Highlights for 2021

This activity supported the Agency's core (and delegated) mission by providing state-of-the-art services to all operations in the areas of legal, procurement, grants, contracts, finance and budget, human resources management, ICT, facility management and logistics. The main 2021 achievements can be described as follows:

- Signature of the Financial Framework Partnership Agreement with the Commission and ESA.
- Successful evolution from the European GNSS Agency to the European Union Agency for the Space Programme.
- Efficient execution of the establishment plan with a rate of 100% (including new 41 posts). Agreement with Budgetary Authority about gradual reduction of overall number of Contract Agents, in accordance to budget ceiling.
- Strong response to COVID-19 pandemic across all sites ensuring the Health & Safety of staff and the continuity of operations.
- Establishment of Learning and Development priorities for 2021-2022.
- Efficient undertaking and awarding of procurement processes.
- Continued ensuring effective management of the Administrative Board.
- Continued development of risk management capability, including quarterly Corporate Risk Management Boards.
- Improved communications and interactions (managed by the Central Security Office) with the NSAs of the Member States related to the classified contracts managed by the Agency.
- Improvement of the security training plan and increased security awareness briefings.
- Continued to raise awareness to promote the Agency work via a range of communications activities targeting national and European Stakeholders, industry, user communities and citizens.
- The Agency continued to engage and expand its internal communication efforts to help support an informed, motivated and connected team located in multiple sites.
- Identification and implementation of network of Agency Site Managers, including for implementation of H&S measures across all sites in response to COVID-19 pandemic.

1.6.2 Tasks for 2021

Objective 1: Implement efficient management of all legal arrangements for the Agency, in-line with the service delivery needs (WBS 1.01.02)			
Expected results		2021 results	
<ul style="list-style-type: none"> Procurement management: planning, preparing and executing procurement file up to signature of legal commitment Grant management: planning, preparing and executing grant file up to signature of legal commitment Legal commitments management: drafting, negotiating, signing, amending, assigning and other support throughout the lifetime of a legal commitment Legal advisory services: identification, verification, assessment and provision of legal opinions 		As planned	
Targets		2021 results	
Indicators	Procurement and contract award: % of contracts in place and on time	90 %	
	Contract management: % of exceptions linked to legal department performance compared to total number of contracts signed in a year	< 5%	
Planned outputs		2021 results	
<ul style="list-style-type: none"> Executive Director documentation (incl. decisions, letters, guidelines) 		100% - achieved	
Actual outputs		No exception report attributable to LEG on 489 signed legal commitments - achieved	

<ul style="list-style-type: none"> • Policies • Documents relating to court decisions • Institutional agreements (delegation agreements, working arrangements, regulatory documents) • Acquisition documentation (tenders, calls for proposal) • Legal commitments (contracts, grant agreements, non-disclosure agreements, licenses, etc.) • Reporting (on procurement, grants, contracts on core and delegated tasks) 	As planned
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Objective 2: Identifying, developing and implementing activities leading to a workforce capable of delivering EUSPA's business needs (WBS 1.01.03)	
Expected results	2021 results
<ul style="list-style-type: none"> • Planning and allocation of resources and establishment plan management • Selection, recruitment and on-boarding of the most suitable candidate(s) for each vacant post/reserve list and in accordance with applicable requirements, Staff Regulations and CEOS • Relocation support • Work-life balance initiatives • Staff administration and services • Staff performance management: staff objectives consistent with the Agency's objectives • Learning and staff development: maintain and develop staff competencies required to successfully perform the assigned job • Human resources management: ensure compliance with legal framework; sound financial management; new administrative notes/policies/guidelines/ED decisions on issues that require (re)enforcement or introduction of human resources tools for effective and efficient staff management; co-ordination of complaints/appeals process; promotion and maintenance of professional working environment; inter-agency cooperation and reporting 	<p>As planned, including the following measures taken due to pandemic:</p> <ul style="list-style-type: none"> • Remote selections procedures • Remote onboarding processes on newcomers • Mandatory teleworking as nominal working mode introduced • Staff administration and services delivered mostly online • Learning and staff development services delivered online

• Relations to staff and counterpart to Staff Committee				
Indicators	Targets		2021 results	
	% execution of the Establishment Plan	95%	100%	
	Number of annual leave carried over	9 days	8.73	
	Average rating of quality of training	8.5	8,62	
Planned outputs			Actual outputs	
<ul style="list-style-type: none"> • Identification/planning of necessary resources in accordance with operational requirements and execution of establishment plan • Vacancy notices, selection of most suitable candidates, recruitment guidelines to the Selection Board members and FAQ for candidates • Induction training, Agency social events, work-life balance support • Processing entitlements of staff • Set annual objectives, annual staff performance appraisal and annual reclassification exercise • Learning and development strategy, individual training maps, organisation of learning activities, feedback/evaluation management • Draft, communicate and implement the Commission's implementing rule proposals for adoption by the Agency; draft, communicate and implement Executive Director's decisions; draft Agency administrative notes and policies • Various metric and narrative reports 			As planned and in addition: <ul style="list-style-type: none"> • No disruption of selection and recruitment due to pandemic (41 new posts filled) • Selection procedures carried out fully online • Expansion of dissemination channels for vacancy notices, e.g. obtaining Linked In recruiter licence • Detailed description of the selection process published online • Comprehensive training portfolio offered to staff following the agreement of strategic learning and development priorities • Entitlements of staff processes carried out online (majority via Sysper tool), gaining efficiency and minimising delays • Continuity of induction and other training activities, including remote delivery 	

Objective 3: Ensure administrative management at GSMC (WBS 4.06.05)			
Expected results		2021 results	
<p>The Agency has a number of administrative processes that support the functions of the GSMC. Although most are common for the entire Agency, some are GSMC-specific. The expected results for administrative processes are as follows:</p> <ul style="list-style-type: none"> • Provision of internal training to respective staff and organisation of tests • Certification Board meetings and administration of conclusions <p>Certificates obtained by the end of probationary period and clearance approved</p>		<ul style="list-style-type: none"> • Certification Management: Ensure the appropriate certification of the staff (PRS Access Officer, SIH, etc.) on time <ul style="list-style-type: none"> ○ 6 Certification Boards (CB#20 – CB#25) 	
Targets		2021 results	
Indicators	% of success rate of operator training (certification)	Achieved	
100%			
Planned outputs		Actual outputs	
<ul style="list-style-type: none"> • Operators' certificates 		<ul style="list-style-type: none"> - Operators' certifications maintained and for some expanded (dual PRS/SECMON) - 19 operators certified as Security Incident Handlers (SIH) for GSMC v3.0 (100% contractors included) - 11 operators certified as PRS Access Officer for GSMC OPS v3.0 (100%) - 7 operators certified as Cyber Shift Operators (CS) for GSMC OPS v3.0 - 8 staff certified as LSMC members for SB 1.7 	

Objective 4: Plan, manage and report on the GSA budget and process all financial transactions (WBS 1.01.04)	
Expected results	2021 results
<p>Budgeting and regular financial management:</p> <ul style="list-style-type: none"> Budgeting, monitoring and reporting on level of budget execution to all internal and external clients Daily management of Agency financial transactions Provide Commission with report on the financial management of Delegation Agreements (quarterly and annually) and cash management of all Delegation Agreements Cash flow status (twice a year) and cash management of the EU subsidy Management of Value Added Tax (VAT) exemption for all Agency sites and personal VAT reimbursement for Prague-based staff General finance and VAT-specific training as they pertain to EU financial procedures Manage paperless tool <p>Administration and control of grants:</p> <ul style="list-style-type: none"> Support and/or manage preparation of calls for proposals, grant agreements, amendments, payments, and reporting Detailed ex-ante verification of all grant payments in-line with European Court of Auditors' recommendations Management of external experts in relation to evaluation of grant calls and supervision and review of deliverables produced by beneficiaries of the EU grants under Agency management Drafting of policies on ex-ante and ex-post checks for grants and on expert rules Ex-post controls of grant payments 	As planned

<ul style="list-style-type: none"> Report to the Commission and internal clients on execution of grants and cash flow needs 		
Indicators	Targets	2021 results
	Commitment rate and rate of payment within prescribed time limits 98%	Commitment rate 100% Payments within prescribed time limits 98,7%
Planned outputs		Actual outputs
<ul style="list-style-type: none"> Monthly financial reporting Draft budget document Official budget documents and amendments for publication in the Official Journal Annual Budget Implementation Report VAT exemption certificates and reimbursement claims Quarterly and annual financial reports for delegated budget 		As planned

Objective 5: Provide a secure core digital working environment for EUSPA departments within the ICT-related domains of ICT security, ICT operations, ICT user support and ICT project management (WBS 1.01.05)	
Expected results	2021 results
<p>The Agency's ICT activities are split along four fundamental lines:</p> <ol style="list-style-type: none"> 1. Systems and infrastructure management: ensure all systems operate within optimal parameters and are reliable and available to Agency users as required 2. User management: ensure the appropriate provision of technical assistance and support 3. Project management of all ICT projects <p>ICT security: ensure the confidentiality integrity and availability of EUSPA systems</p>	<p>ICT services were provided in requested quality and timing and all infrastructure was managed and monitored to ensure sufficient level of security.</p> <p>During the COVID-19 crisis, EUSPA was not technically dependent on external communication services, the internal infrastructure was able to support the teleworking of all staff and contractors without noticeable problems and exceeded expectations.</p>

			There was no successful attempt to compromise EUSPA systems in 2021 despite about 232,000 detected and declined attempts during the year.
Indicators		Targets	2021 results
	L1/L2 support responsiveness	<1d: min 65% 2-5d: min 30% >5d: max 5%	<1d: 2213 (75,40%) 2-5d: 358 (12,20%) >5d: 364 (12,40%)
	Core System availability	99 %	99.90%
	Detection of attempts to compromise core systems	100 %	100%
	Projects/delivery schedule respected	80 %	90% 4 completed (2 of them delayed), 20 on-going
Planned outputs			Actual outputs
<ul style="list-style-type: none"> • Execution and control of core ICT projects (following PM² project management methodology) • Implementation of IT security policy following the development of the IT Security Policy Framework 			<ul style="list-style-type: none"> • Change management, incident management and problem management was successfully implemented and continues improvement for set processes is defined and followed. • All ICT projects follow project management methodology and process is governed by ICT Steering Committee. • ICT related In/Out processing of EUSPA users is managed by ICT Helpdesk including hardware handovers with 100% efficiency. • We keep improving alignment between ICT and business needs • Execution of an EUSPA Digital Transformation project, to continue in 2022 • E-signatures for authorising officers implemented • Rebranding from GSA to EUSPA – new electronic identity

	<ul style="list-style-type: none"> • Success of important high-level meetings such as the Admin Board and SAB • Active day-to-day collaboration and interaction with CERT-EU, follow-up on the recommendations and warnings, sharing information with CERT-EU, penetration testing, continuous monitoring and analysis if system logs in coordination with CERT EU. • New FW contracts under preparation for general ICT support • Upgrade and improvement of EUSPA WAN in progress
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Objective 6: Maintain operational capability of EUSPA premises in Prague to support EUSPA activities (WBS 1.01.06)			
Expected results		2021 results	
<ul style="list-style-type: none"> • Timely facility management and logistical support to internal customers; • Accurate asset and inventory management; • Timely building management; • Good cooperation with the building owner and representatives. 		<ul style="list-style-type: none"> • Facility management and logistical services were provided in requested quality and timing; • Inventory management updated and according to policy. • Obligatory inventory check executed according to regulations and policies • Cooperation with buildings owners ongoing on a good level. 	
		2021 results	
Indicators	Operational capability monitored (i.e. number of days building operability capability was maintained expressed as a percentage of days required)	100%	
	Targets	100%	

Planned outputs	Actual outputs
<ul style="list-style-type: none"> On demand facility services report Activity report for building maintenance Bi-weekly activity reports to the Head of Administration Execution report on, for example, cleaning services to Supervisor Specific feedback to requesting party as part of the escalation procedure for reception services, building management, etc. Updated records of solutions found, or information provided to internal customers, procurement officers or contract managers Monthly report based on ticketing tool outputs On demand facility management satisfaction survey (or feedback based on day-to-day business) Quarterly quality report on cleaning for supplier's internal control Updated inventory system based on movement and inventory checks Inventory committee reports 	<ul style="list-style-type: none"> Monthly facility services reports provided as main support documents for management and invoicing, together with monthly operational reports and time sheets; Facility Management contract is in place for years 2019 – 2023; Ticketing tool records in electronic version; HQ utilities consumption records in electronic version; Facility Management satisfaction management feedback during an appraisal exercise; ABAC ASSETS database up to date; Building improvements – A/C, electricity distribution, hygiene; Frequent communication with the building owner (mails, ED letters); HQ extension project preparation phase (letters, mails, meetings); GSMC extension project planning phase (project documentation) Identification and implementation of network of Agency Site Managers, including for implementation of H&S measures across all sites. In addition to the planned activities, extensive work was done on the management of COVID-19 countermeasures, insurance of hygiene and procurement and supply of special material, such as individual protective equipment, disinfection etc.

Objective 7: Strategic Planning and Administrative Board Management (WBS 1.01.07)	
Expected results	2021 results

<p>In-line with the Agency's regulation and the Rules of Procedure for the Administrative Board (Board). During this period, the Agency intends to hold a minimum of two scheduled Board meetings. The Agency will also provide the Board with the necessary secretariat over the course of the year.</p> <p>The Agency's strategic planning function is a combination of several activities that are required to support the management team and, indirectly, the Administrative Board. In particular, this function focuses on:</p> <ul style="list-style-type: none"> Ensuring the development of the programme documents, including the Single Programming Document and the Annual Activity Report 			As planned	
Indicators	Targets		2021 results	
	Schedule of meetings for year are not altered	4 meetings	5 meetings (additional meeting needed to allow the election of the Deputy Chair of the Administrative Board)	
	Timely preparation of programming documents and corresponding reporting	100%	100%	
Planned outputs			Actual outputs	
<ul style="list-style-type: none"> Agenda and minutes of each meeting. Board decisions, including written procedures. Programming document Annual activity report 			<ul style="list-style-type: none"> As planned Decision to change the structure of the SPD, starting from the SPD 2023-2025 Agreement reached with Administrative Board and European Commission for enhanced sharing of information on entrusted tasks. 	

Objective 8: Achieve EUSPA-wide capability for Records and Information Management (RIM) (WBS 1.01.08)				
Expected results			2021 results	
Smooth implementation of an enterprise content management system (ECM), comprising of a Document Management System (DMS) and a Records Management System (RMS), its integration with other EUSPA tools, and compliance with CADM, documents and records management policies and processes to enhance value, improve efficiency and comply with legal obligations.			As planned	
Indicators	Targets		2021 results	
	RIM governance definition: policies, processes and procedures	100%	100% for documents management (policy, processes, and procedures available) 10% for records management (Documents and Records Management Policy)	
	Implementation of the ECM	100%	DMS development and implementation: 100%; RMS design, development and implementation: 0%	
	Number of staff, including trainees and in-house consultants trained	100%	Overall 85% (RMS represents a smaller part of the ECM) DMS: 100% RMS: 0%	
Planned outputs			Actual outputs	
<ul style="list-style-type: none"> Enterprise content management system RIM governance: relevant policies, processes and procedures CADM functionalities and functionalities for core tasks Members of staff, trainees and in-house consultants trained 			<ul style="list-style-type: none"> ECM – the part managing documents is in place. It includes CADM functionalities, e.g. management of incoming and outgoing deliveries, reviews and baseline management. Available documentation: Documents and Records Management Policy; 	

	<p>Documents Management Process; Documents management procedures and video tutorials;</p> <ul style="list-style-type: none"> All Agency's employees are trained via induction training sessions for new comers, monthly training sessions offered to all users, training sessions requested by users as needed.
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Objective 9: Successful compliance with personal data protection rules applicable to the Agency (WBS 1.01.09)			
Expected results		2021 results	
Full Agency compliance with data protection rules (Regulation (EU) 2018/1725)		Full compliance	
Targets		2021 results	
Indica	% of compliance with data protection rules	100%	100%
Planned outputs		Actual outputs	
At the Agency / departmental level there are no further outputs.		No further outputs	

Objective 10: Successfully undertake risk management activities (WBS 1.02.01)			
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Expected results		2021 results
Ensuring that the corporate risk management process is implemented		Risk was managed at corporate level with the risk and opportunities register being reviewed and updated although not with the expected frequency.
Indicators	Targets	2021 results
	Timely preparation of programming documents and corresponding reporting	100%
	Quarterly Corporate Risk Boards held	100%
Planned outputs		Actual outputs
Outputs relating to the multi-annual work programme objectives:		<ul style="list-style-type: none"> Up to date Risk Register
<ul style="list-style-type: none"> Risk register 		

Objective 11: Measure and improve the quality of EUSPA processes (WBS 1.02.02)		
Expected results		2021 results
<p>ISO 9001 required EUSPA Quality Management activities (annual quality audit planning and management review) and the related ISO 9001 certification of the Agency.</p> <p>Development of an Integrated Management System (IMS) for other standards that the Agency intends to be certified against in the future.</p>		<p>The EUSPA WBS was updated and released as Ver. 2022 in November 2021.</p> <p>An External Audit was successfully completed, without any non-conformances and with the extension of the scope of our certification to the new activities of the Agency, supported by an extensive agency-wide internal quality audit programme.</p>

		A new EUSPA IMS manual was reissued reflecting the continued development of the IMS of the Agency and to align it for the ISO 9001 recertification.
Targets		2021 results
Concerns with regard to ISO 9001 requirements raised by ISO external auditors	0	No non-conformances raised.
Progress of implementing quality audits (% of audit reports available)	100%	100% of internal audit workshops held and reports created.
Implementation of open actions in the continuous improvement database	80%	94.5% of not closed actions in the Continuous Improvement Database.
Planned outputs		Actual outputs
<ul style="list-style-type: none"> Continued ISO 9001 Certification Annual Quality Audit Plan and Audit Reports EUSPA WBS and WPDs describing organisation of EUSPA tasks Quarterly review of core tasks and performance indicator and procurements tracking Performance indicator definition (Linked from SPD to work packages and staff annual objectives) Implementation of Continual Improvement activities including CIDB management, Lessons Learned, Surveys Management Review Board IMS document libraries (including policies, processes, procedures and work instructions) Staff training on quality, IMS and best practices 		<ul style="list-style-type: none"> External Audit passed successfully without any non-conformances; Annual Quality Audit plan approved and released (Q1 2021); internal quality audit reports approved and released (Q2 2021); final report approved and released (Q1 2022); EUSPA WBS and WPDs kept up to date throughout the year and baseline for 2022 established; Regular KPI tracking and quarterly review meetings (4 out of 4); Performance indicators defined in the WPDs consistently with the SPD; Continuous improvement database regularly updated, tracked and actions followed up; Lessons Learned exercise for the Internal Quality Audits; Annual management review presentation held in Q1 2022, following an External Audit recommendation; IMS document libraries maintained on the DMS with access via Publication Centre for all the Agency;

- Quality breakfasts and similar events derailed by COVID-19. Monthly Quality Officers meetings held. Best Practices Database updated.

Objective 12: Ensure the Agency fulfils statutory obligations (WBS 1.04.01 and 1.04.02)

Expected results	2021 results
<p>The Agency's internal control coordination and risk management activities are on-going tasks that help fulfil its statutory obligations. These include:</p> <ol style="list-style-type: none"> 1. Liaising with, and reporting to, the EC Internal Audit Service and with internal and external stakeholders on internal control issues 2. Evaluating the compliance and effectiveness of the internal controls of the organisation by assessing the implementation of 16 Internal Control Standards (to be substituted by the EC Internal Control Framework) 3. Reporting on the follow-up of all open recommendations and action plans (from the Internal Audit Service, Internal Audit Capability, external auditors, the Court of Auditors and the Parliament's discharge) 4. Coordinating the Agency's Internal Audit Capability in the preparation, execution, reporting and monitoring of recommendations relating to internal audit activities 5. Coordinating the Agency's external auditors, as required under Delegation Agreements in the procurement of the audit services and the preparation, execution, reporting and monitoring of recommendations related to these audits 6. Management of and reporting on all actions related to the Gifts and Hospitality Policy, including the gift registry 7. Managing all actions relating to the Agency's Anti-Fraud Strategy 	<ul style="list-style-type: none"> • The implementation of IAS audit on "GSA EGNOS Exploitation" was finalised in 2021. An IAS audit on "GSA Galileo Exploitation" was finally completed in Q2 2021 and the implementation of recommendations should take place by June 2022. IAS also executed a risk assessment of EUSPA in 2021 and released the Strategic IAS audit Action Plan 2022-24 in Q1 2022; • EUSPA developed an Agency Internal Control Framework, that was approved by the Administrative Board in Q1 2021; • A first joint-audit with DG DEFIS was executed by EUSPA Internal Audit Capability on delegated funds to ESA for 2020 expenditure; • Three audits on the use of EC delegated funds in 2019 were planned and procured in 2020 and executed in 2021; • The Gifts and Hospitality Policy, including the Agency gifts registry has been maintained; • An Agency report on the implementation of the Agency Anti-Fraud Strategy was executed in 2020 and approved in Q1 2021; • Active management of Anti-Fraud Strategy topics led to the issuance of the Conflict of Interest Implementing Rules in 2021 finally reviewed by EC;

8. Assessing requirements for developing and implementing the GSA Conflict of Interest Policy			
9. Execute a business continuity impact analysis and develop the different elements of the GSA's corporate business continuity management			
Indicators	Targets		2021 results
	Timely execution of the corresponding yearly audits	7 audits	2 audits executed. Effort associated with one IAC audit changed into consultancy support. 3 DA audits planned but executed in 2021 following prioritisation considerations. Support to investigations provided as required.
	% of key elements of the Anti-Fraud Strategy defined and implemented	100%	100%
	Timely issuance of the Internal Control Standards compliance report	100%	Internal Control Framework prepared.
	Timely issuance of the Declarations of Compliance (15/Feb)	100%	100%
Planned outputs		Actual outputs	
<ul style="list-style-type: none"> GSA internal audit capability audit report EC internal audit service audit report External auditors audit reports for delegated funds Declaration of assurance and management declarations under Delegation Agreements EC Internal Control Standards compliance report Anti-fraud internal information and support Gifts and conflict of interest registries Business continuity management framework documentation 		<ul style="list-style-type: none"> An audit report from the IAC, a consultancy report on Agency ICF; One audit report from the IAS; Three external auditors audit reports for delegated funds postponed until 2021; Declaration of assurance and management declarations; Agency Internal Control Framework upgrade; Anti-fraud internal information and support, Anti-Fraud implementation status report; Gifts and conflict of interest registries maintained; 	

- Agency corporate Business Continuity Strategy, Plan and Procedure completed.

Objective 13: Develop Corporate Communications for EUSPA (WBS 1.03.02)				
Expected results			2021 results	
<ol style="list-style-type: none"> 1. Strengthened and recognised corporate identity for the Agency 2. Enhanced overall awareness of the Agency and better understanding of its mission, vision and values 3. Increased awareness of the Agency's Work Programme and achievements 4. Consolidated and strengthened relationships with key European players in the space sector and key GNSS user communities 5. Strategic partnerships built and/or strengthened 6. Increased awareness of and appreciation for the Agency's work by relevant EU stakeholders in the Member States 7. Increased partnership and appreciation for the Agency's contribution by EUSPA facility host countries 			Achieved	
Targets			2021 results	
Indicators	YoY increase in traffic to key event/ media/social media/internet touchpoints		10 % Increase	Achieved

YoY increase in user base across all GNSS markets and their components	10 % increase	Achieved
YoY expansion of Galileo Initial Services market	10 % increase	Achieved
Planned outputs	Actual outputs	
<ul style="list-style-type: none"> Website creation, maintenance and management Social media campaigns Production and dissemination of publications Production and dissemination of videos Event creation, participation and management (exhibition creation, advertising, promotion and presentation) Media and public relations initiatives Newsletter production and distribution Feedback surveys and studies 	<ul style="list-style-type: none"> 2021, all activities were transferred online Website creation, maintenance and management: in 2021 there were more than 440,000-page views on the EUSPA website, 40,000 on useGalileo.eu, 142,000 on the GSC Help Desk site and 256,000 on the EGNOS portal user support site. Social media campaigns: EUSPA intensified the number of online campaigns combining organic and paid promotion to launch several competitions (MyEUSpace) and assisted as well several H2020 projects with the promotion of their progress and products release. Social media were used extensively also to strengthen EUSPA recruitment capacity, and its ability to reach industry and service providers in calls and other initiatives. Throughout the year, EUSPA ran about 50 main campaigns, publishing and engaging continuously on 5 social media networks. In addition EUSPA has managed to consolidate channels with DG-COM, DG-DEFIS, and other EU institutions including the Entrusted Entities of Copernicus to create joint campaigns and boost visibility. 	

- **EUSPA transformation:** The transformation from GSA to EUSPA required a special focus of the Communication department with dedicated video, PR, logo, website, press conferences and dedicated events. It led to more than 200 press news from 55 different countries, 3500 new followers in Social Media, 2 million of European citizens reached.
- Galileo Launch 11 has been managed in collaboration with the EC and ESA. It generated also a large coverage with more than 400 press news and 260K people reached.
- **Production and dissemination of videos:** Production of several videos including 'We are EUSPA' and 'From GSA to EUSPA' at the occasion of the transformation, '10th Galileo satellites launch' and 'Galileo Launch 11 message' from EUSPA ED.
- **Event creation, participation and management:** 10 events, including but not limited to: the 13th Space Policy Conference
- **Media, public relations initiatives:** In addition, press initiatives including but not limited to:
 - 11 press releases published (half of them in all the EU languages)
 - The Galileo constellation grows bigger after successful Launch 11 EUSPA launches Horizon Europe call to transform the digital economy, increase the Union's resilience and support the Green Deal EU Space on a new trajectory with the launch of the European Union Agency for the Space Programme, EUSPA
 - 15 interviews given to the major European press

Objective 14: Develop internal communications for EUSPA (WBS 1.03.03)				
Expected results			2021 results	
<p>The Agency uses internal communications to empower its staff and to ensure they remain ‘on brand’. This objective is meant to:</p> <ul style="list-style-type: none"> Foster a culture of positive team spirit and customer service Promote better staff understanding and awareness of the Agency’s mission, team and objectives Enable staff to project a correct and consistent message about the Agency’s key objectives to the outside world, allowing them to serve as “communication ambassadors” Improve the working environment by increasing communication flow across departments and by enhancing information sharing 			As planned	
Targets			2021 results	
Indicators	YoY increase of traffic to key media/ social media/ internet touchpoints for internal staff	10% Increase	Achieved	
	YoY increase in positive response to internal communications strategy	10% Increase	Achieved	
Planned outputs			Actual outputs	
<ul style="list-style-type: none"> Annual communications plan Event creation, participation and management Newsletters production and distribution 			<ul style="list-style-type: none"> Expansion and production of 45 issues of weekly Agency Internal newsletter ‘CONNECT’. 	

<ul style="list-style-type: none"> Feedback surveys and studies 	<ul style="list-style-type: none"> During teleworking, virtual coffee corners have been organised weekly to support the staff and create team spirit. Support of internal communications of quality control, ISO certification, cyber security, newcomer support, etc. EUSPA social media training has been developed for staff to encourage supporting EUSPA visibility in social media.
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Objective 15: Develop stakeholder communications for EUSPA (WBS 1.03.04)	
Expected results	2021 results
<p>The Agency maintains and improves stakeholder liaison and communications to:</p> <ul style="list-style-type: none"> Increase dialogue and strategic partnerships aimed at fulfilling mutually-shared goals Enhance positive and open working relationships, exchange information and facilitate communications and liaison Increase the visibility of and appreciation for the Agency's work and its role within the EGNSS programmes Build trust and engage stakeholders as partners who can act as multipliers and further share key information and actively participate in the Agency's work and success Better awareness amongst key stakeholders of the Agency's vision, mission and what it needs to succeed 	<p>As planned</p>

<ul style="list-style-type: none"> Increase understanding and appreciation for the Agency's work, especially amongst the Commission, DG DEFIS colleagues, members of the GSA Administrative Board and relevant members and committees in the European Parliament 			
Indicators	Targets		2021 results
	YoY increase of traffic to key media/ social media/ internet touchpoints	5% Increase	Achieved
	YoY increase in profile and awareness by the stakeholder base across all Target Audience entities	5% Increase	Achieved
Planned outputs			Actual outputs
<ul style="list-style-type: none"> Annual communications plan Website creation, maintenance and management Social media campaigns Production and dissemination of publications Production and dissemination of videos Event creation, participation and management (exhibition creation, advertising, promotion and presentation) Media and public relations initiatives Newsletter production and distribution Feedback surveys and studies 			<ul style="list-style-type: none"> 2021 Communications plan published and implemented, switching all activities online; Organised a number of VIP visits to the Agency's headquarters, including hosting visits of EC Commissioner, EU Space Agencies (Italy, Romania, Germany), European Ministers (French, Czech, Italian, Spanish); EU ambassadors in the Czech republic. In 2021, a EUSPA delegation was invited to speak at a meeting of the ITRE Committee in Brussels, to participate to the Space Working Party under an invitation of the Portuguese Presidency of the Council Preparation of ad hoc briefings on space benefits for the different EU Parliament Committees Distribution of 4 editions of a targeted newsletter to Admin Board members: 'AB CONNECT';

	<ul style="list-style-type: none"> Ongoing communications and information provision to key stakeholders as needed.
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Objective 16: Ensure full compliance with the Commission Security Rules for the Agency (WBS 2.02.01)			
Expected results		2021 results	
<ul style="list-style-type: none"> Management of authorisations to access EU Confidential Information (EUCI); Management and maintenance of COMSEC accounts held by the Agency; Issuing security incident reports; Maintaining records of entries/exits to secured areas; Issuing security intervention reports; Delivery of EUCI data pack. 		The Agency has ensured the handling of EUCI and COMSEC material in compliance with the applicable rules and regulations.	
		2021 results	
Indica	% of compliance with Commission decisions 2015/444 and 2015/443	100 %	
	Targets	100%	
Planned outputs		Actual outputs	
<ul style="list-style-type: none"> Authorisations to access EUCI Security incident reports Records of entries/exits to secured areas Security intervention reports Delivery of EUCI data pack COMSEC transfers and transportations 		<ul style="list-style-type: none"> 88 authorisations to access EUCI; 7 security incident reports; Records of entries/exits to secured areas (N/A); Delivery of EUCI data pack; 100% of all necessary and planned COMSEC transfers were successfully performed. 	

- Policy governance and authorisation of GSMC Operational COMSEC activities as defined in GSMC Operations and Preparation Objective 3.

Objective 17: Assure the annual accreditation reviews of internal Agency systems/areas (WBS 2.05.06)			
Expected results		2021 results	
<ul style="list-style-type: none"> • Organisation of the accreditation review of internal Agency systems/areas and reporting accordingly to the Agency's security accreditation authority; • Accreditation statements for internal systems signed by the system accreditation authority. 		The Agency has ensured the maintenance of internal systems for the handling of EUCI and COMSEC material in compliance with the applicable rules and regulations, through regular review and release of valid accreditation statements	
Target		2021 results	
Indica	Number of internal accreditation reviews		19
6			
Planned outputs		Actual outputs	
<ul style="list-style-type: none"> • Security accreditation report; • Recommendations to the SAA; • SAA decision / authorisation to operate Agency areas/systems. 		<ul style="list-style-type: none"> • Security accreditation report: 11 • Recommendations to the SAA: 24; • SAA decision / authorisation to operate Agency areas/systems: 15 	

1.7 Delegated Tasks

1.7.1 EGNSS Exploitation Programme Management

The Delegation Agreement for EGNOS Exploitation was signed on 16 April 2014. The agreement includes the provision of the Open Service, Safety of Life Service and the EGNOS Data Access Service to users through to 2021. In December 2021, this Delegation Agreement was amended a further time, extending its validity until end of 2022.

At the end of June the FFPA and CAs became effective. Following the transition to the EUSPA-ESA CA, the EGNOS Working Arrangement SC1 and SC3 (V2 contract) were transferred from ESA to EUSPA management in July and SC2 (V3 contract) was transferred in November 2021. Over the year, EUSPA focused its effort on achieving a successful handover, in collaboration with ESA, and on setting up a new organisation, based on EUSPA/ESA integrated teams.

2021 was the second year of the COVID-19 pandemic. The EGNOS services were maintained and remained resilient to the crisis, but impacts on the Programme did appear, even though the impact was stabilised. In particular:

- V3 sites preparation activities: Delays in deployment because of borders closure and travel restrictions
- Grants: Eurocontrol 3rd grant to be closed in 2022.

Throughout 2021, the EGNOS service performance was delivered in line with the Service Definition Document (SDD), with the exception of some degradations on the EGNOS SoL service availability, which affected some peripheral areas.

An update to EGNOS V2 Mission Requirements Document on service area was prepared in the last quarter of 2021, to include Iceland as EGNOS participating country and remove the UK from the EU Member states.

Some other key Agency activities undertaken in 2021, in the main areas of the Programme include:

- For the preparation of the next EGNOS Service Provision phase:
 - The Next EGNOS Service Provision contract (NESP) procurement was ongoing during 2021.;
 - The V2 Maintenance Contract procurement was ongoing during 2021.
- For EGNOS V3 System Evolution:
 - The contract execution was ongoing during 2021.

- Design Key Point part-2 and Security Key Point milestones were achieved in December.
- V3 RIMS Sites:
 - 4 contracts were signed in 2021 (Cyprus, Madeira, Saint-Pierre-et-Miquelon, and Tromsø) leading to a total of 23 contracts signed out of 44 in December 2021
 - 3 contracts were awarded (Kourou, Lisbon, Rome)
 - 4 new sites reached the Infrastructure Acceptance Review (IAR) part-2 (Kiev, Kuusamo, Svalbard, and Zurich), leading to a total of 5 sites which have reached the milestone and are close to delivery to industry
- For EGNOS V242 System Evolutions and Operational Transition:
 - Critical Design Review (CDR) Part 1 was achieved in April and the System Performance Key Point in July.
 - V243 procurement was finalised during the reporting year and the main contract was signed in December.
- For GEOs:
 - GEO-1 and GEO-2 provided a very good service without any issue to be highlighted and services were nominal
 - GEO-3 services were delivered as expected during the year as well. Since no EGNOS equipment is currently deployed, the SLA report does not raise any underperformances
 - The GEO-4 contract was signed on 08-February-2021 and the Kick-off Meeting was held on 16-March-2021.
- For EGNOS Security:
 - The Agency team worked on the preparation of Site Accreditation Reviews (SAR) for CLA sites (MCC Torrejón, NLES Cagliari, Redu, Betzdorf) and RIMS sites.
- For new Services and new Applications:
 - EUSPA continued the work on the development of an initial SoL Maritime Service
 - EDAS evolutions will be enabled through the Service Data Access Facility (SDAF). EUSPA worked on consolidating the roadmap during 2021
 - EUSPA presented a proposal to EC for an EGNSS service demonstrator.
- For Service Adoption:

- By the end of December 2021, 804 EGNOS based procedures were implemented at 426 airports/helipads in 34 European countries/regions (including Guernsey, Iceland, Jersey, Montenegro, Norway, Serbia and Switzerland)
- EUSPA launched a new call for proposals for the “Acceleration of EGNOS Adoption in Transport” during Q3. The Call was very successful receiving in total 17 proposals covering Aviation, Rail and Maritime segments.

In 2021, the Galileo services were provided in line with the service declaration. The number of Galileo users continued growing, and has now reached more than 2.4 billion users worldwide. The Galileo performances continued being published in the GNSS Service Centre (GSC) website. The Galileo Reference Centre (GRC) continued monitoring the Galileo service performance, and to act as the main source of input KPIs reporting (complemented with MS reports).

Furthermore, the main highlights of 2021 include:

- the Galileo service provided with outstanding performances despite COVID-19, thanks to strong commitment from all industrial partners and the support from the Members States (no Service Incidents);
- Following the successful completion of the Open Service (OS), the Security Accreditation Board (SAB) authorised the declaration of the OS Enhanced Service Step 3. The publication of the updated Service Definition Document (SDD) was published in December 2021;
- Following the successful completion of the respective Public Regulated Service (PRS) milestones and upon endorsement from the Security Accreditation Board (SAB), the initial PRS Service Definition Document (SDD) version 1.1 was released;
- Concerning the Open Service Navigation Message Authentication (OS-NMA), and following the corresponding Security Accreditation Board (SAB) decision, the public observation test phase has now started;
- In relation to the High Accuracy Service (HAS), the 1st broadcast of HAS Signal in Space was performed under internal testing with promising results. The real-time demo data broadcast has concluded on 30 September 2021, with the involvement of the entities that answered to the Call for Interest published in June;
- The Return Link Service in FOC and SGS MEOLUTS in IOC/FOC (Council CSC-65) was declared;

- The Launch service contracts for L13-L14 and L15-L16 were signed, noting that L15-L16 are the first launch service contract being signed between EUSPA and Arianespace;
- The complete System L2/L3 maintenance has now been transferred under EUSPA's responsibility;
- The first launch from the Galileo Control Centre in encrypted mode was successfully performed on 5 December 2021;
- The Galileo Service Operator Specific contract 3 was signed with the Galileo Service Operator in December 2021 to ensure the continuity of Galileo services until end of 2026;
- The tender for the new framework contracts to pave the future (SGDSP, GSC, GRC) were launched;
- The Joint Programme Office and the ESA and EUSPA Integrated teams were set-up and have started to take up its duties;
- The Independent Advisory Board (IAB) set-up by the Commission following the December 2020 Service Incident has completed its assessment and final report, including recommendations, was released;
- The Task Force set-up by the Commission in Summer 2019, under GSA/EUSPA leadership, following the consecutive services incident has reached all objectives set as per its mandate thanks to the close cooperation of all institutional (EC, ESA and EUSPA) and industrial (WP2x and GSOp) partners.

These highlights were sustained by regular activities in the areas of project management, project control, contract and procurement management, operations, accreditation preparation, service and security engineering, market uptake, and quality.

Lastly, several outreach and communications activities were delivered, including the MyEUSpace competition, the launch of the 1st Call for Horizon Europe.

1.7.2 GOVSATCOM Activities

EUSPA within 2021 has coordinated the ENTRUSTED Network of governmental satcom Users which has grown over the course of 2021, reaching a total of twenty-five (25) organisations, consisting of nominated representatives of fifteen (15) Member States and ten (10) EU Agencies.

Such a network, under the EUSPA lead, jointly contributed to the implementation of the GOVSATCOM Horizon 2020 Coordination and Support Action (CSA) grant agreement No. 870330 – the ENTRUSTED project. Regular coordination meetings related to each ENTRUSTED Work Package were held. In particular, monthly project management meetings participated by the whole Team and bi-weekly thematic meetings associated

to each operational Work Package were organised to ensure an adequate coordination and progress of the work. 12 Deliverables of the ENTRUSTED project have been prepared and submitted during 2021.

Due to the lack of an existing agreement between EU entities to enable the exchange of EUCI documents which was needed for the preparation of ENTRUSTED deliverables, EUSPA initiated the discussion with the respective EU entities of the consortium, including the EEAS and the European Commission, to set up a lightweight arrangement for exchanging such EUCI. The establishment of the lightweight arrangement was distributed for review and signature by the EU entities.

During 2021 EUSPA actively supported the security tasks related to the GOVSATCOM in coordination with the EC. EUSPA supported the development of the GOVSATCOM security baseline (main documents listed below) supported by the dedicated risk assessment documents, the preparation of dedicated meetings (supported by the presentations). In frame of the 2021, the EUSPA supported EC in work on the following version of the documents: HLD-x, Risk Assessment ecosystem, boundaries and security objectives, Security Classification Guide [RUE/EUR], General Security Requirements [RUE/EUR], WG GOVSATCOM Security TOR, GOVSATCOM Security Management Plan.

EUSPA delivered or supported preparation of all the meeting materials (e.g. presentations, agendas and MoMs) for the GOVSATCOM STF meetings (in total 6 meetings in frame of 2021).

EUSPA developed the security requirements for the GOVSATCOM Hub(s) SoW, the requirements were discussed with DEFIS and consolidated during 2021.

Regarding the procurement of secure operational ground segment design studies, the innovation partnership procurement continued during 2021.

For the purpose of the support related to market activities, EUSPA has continued its activities in 2021

1.7.3 Space Situational Awareness Activities

In relation to the Space situational Awareness activities, within the framework of the new EU Space Regulation, in Q4 2021 EUSPA has completed a preliminary analysis of its possible role and its evolution in case of an eventual delegation Agreement from the Commission to the Agency, related to new elements of the Programme like Space Surveillance and Tracking. It has been hypothesised that EUSPA may fit into the role of a hub responsible for collecting Member State requests, anonymising them to ensure the delivery of the typical SST services (collision avoidance, re-entry analysis and fragmentation tracking), as part of a wider portfolio of Governmental services.

The next steps envisage a preliminary decision on the services that EUSPA deems appropriate to provide and a clear definition of all relevant stakeholders involved, depicting a system architecture that encompasses all needs.

1.7.4 Research and Development Activities

EUSPA is involved in Horizon Europe to stimulate the market and support mainly the creation of commercial solutions for the EU space downstream sector. Space is placed under the pillar II of Horizon Europe, where specifically Cluster 4 of the Work Programme focuses on Digital, Industry, and Space. The first Horizon Europe Call with an overall budget of 32.6 million EUR for the development of innovative space downstream applications was launched in 2021.

The Agency also continued the implementation of Horizon 2020 - Framework Programme for Research and Innovation to the Agency via the Delegation Agreement signed in April 2014.

In 2020, the Agency managed a portfolio of 81 projects from Horizon 2020's first, second, third fourth and fifth calls. By the end of 2019:

- 1st call: all technical activities of 27 projects were closed,
- 2nd call: 12 out of 13 projects were closed from the technical point of view,
- 3rd call: all 18 projects were closed from the technical point of view,
- 4th call: 4 out of 12 projects were closed from the technical point of view,
- 5th call: all 11 projects are running.
-

The following is the portfolio of projects managed by the Agency in 2020, including the projects of the 5th Call:

Name of the Grant	Market Segment	Status	Description
5LIVES	Aviation	Closed	Product and services within the rotorcraft sector, and in particular for handling Aerial Mission Critical operations.
BELS	Awareness Rising	Closed	Coordinated supporting actions to enhance the presence of EGNSS and of European enterprises in South East Asia.

Name of the Grant	Market Segment	Status	Description
BEYOND	Aviation	Closed	Coordination and support action in Eastern Europe and Mediterranean countries.
CaBilAvi	Aviation	Closed	Bridging activity for production, update and revision of education and training materials on new GNSS-based avionics.
COREGAL	Surveying & Mapping	Closed	Fixed-plane unmanned aerial platform equipped with GNSS-based biomass sensor.
DEMETRA	Timing & Synchronisation	Closed	Common Core Infrastructure supporting nine Time Services, composed by a Time Service Generator and User Terminals.
e-Airport	Aviation	Closed	Integrated ICT application based on EGNSS empowering airport operators, ground handlers, and Air Traffic Control (ATC).
E-KnoT	Awareness Rising	Closed	Concrete and effective set of actions in the field of education in GNSS.
ELAASTIC	Location Based Services (LBS)	Closed	Proposal of a variety of technological enablers to be exploited both in the LBS and the road markets.
ERSAT EAV	Rail	Closed	Unified GNSS based solution for a safe localisation that can be tailored to the needs of individual railway applications.
FOSTER ITS	Road	Closed	Design and develop the first secured GNSS Module.
G MOTIT	Road	Closed	Innovative electric scooter sharing service, in which users may pick up and drop off vehicles wherever and whenever they want.

Name of the Grant	Market Segment	Status	Description
GALENA	Road	Closed	Develop equipment, information system, and supervision platform for cross supply chain orchestration for freight pooling in urban areas.
GEO VISION	LBS	Closed	Software for field observation, communication, data sharing, and operations support for the overlap of humanitarian and financial market.
GHOST	LBS	Closed	Intelligent transport system on vehicles of the public network with, automatic snapshots collection operations.
GMCA	Aviation	Closed	Enhanced GNSS Performance Monitoring System to include EGNSS and other constellations and augmentations for use beyond Europe.
GNSS.asia2	Awareness Rising	Closed	Outreach activities promoting EGNSS in Asia through a professional communication software suite and presence at industry events in Europe and Asia.
JUPITER	Road	Closed	Implementation and delivery of support activities for the breakthrough of EGNSS in Information Technology Solutions (ITS) worldwide.
LARA	LBS	Closed	Mobile solution for underground utility management making use and integrating mobile Augmented Reality (AR) interfaces.
MAGNIFIC	Awareness Rising	Closed	Field trials to valorise GALILEO and to promote EGNOS in Africa in a wide range of business and scientific applications.

Name of the Grant	Market Segment	Status	Description
mapKITE	Surveying & Mapping	Closed	Mature prototype of a tandem terrestrial-aerial mobile mapping system (geodata acquisition and post-mission processing).
GRIMASSE	Aviation	Closed	Prototype of an Emergency Locator Transmitter of a Distress Tracking beacon, a set of applications to optimise SAR information transmission and collection, and MEOLUT algorithms.
PARADISE	Surveying & Mapping	Closed	GNSS receiver to make GNSS-based positioning available in challenging situations.
POSITION	Awareness Rising	Closed	Integrated innovation support stimulating sustainable uptake in Poland.
SAT406M	SAR	Closed	Improved Personal Locator Beacon (PLB) and a new communication method between SAR/Galileo and the PLB.
spyGLASS	Maritime	Closed	Passive Bistatic Radar (PBR) based on Galileo transmissions for maritime surveillance.
UKRAINE	Aviation	Closed	Set of coordinated supporting actions for EGNSS penetration in aviation.
GRICAS	SAR	Closed	Innovative operational procedures for inflight activation of SAR (Search And Rescue) beacons onboard aircraft.
ENSPACE	Space	Closed	Innovative Space GNSS software platform supporting multi-applications and multi-missions in LEO, MEO, GEO, interplanetary missions, and launchers.

Name of the Grant	Market Segment	Status	Description
EASY Pv	Surveying & Mapping	Closed	Thermal cameras installed on board a Remotely Piloted Aircraft System (RPAS) in order to detect thermic anomalies on defective photovoltaic modules.
MOBNET	LBS	Closed	Unmanned Aerial Vehicle (UAV)-based Search and Rescue (SAR) system for the location of isolated victims in the case of natural or man-made disasters.
INLANE	Road	Closed	New generation, low-cost, lane-level, precise turn-by-turn navigation application through the fusion of EGNSS and Computer Vision technology.
STRIKE3	Signal processing	Closed	New international standards for the monitoring, reporting and testing of GNSS threats.
LOGIMATIC	Maritime	Closed	Advanced automated navigation solution based on the integration of GNSS and sensors onboard the vehicles, and a GIS-based control module.
STARS	Rail	Closed	Measurement campaign to evaluate the railway environment.
RHINOS	Rail	Closed	Train Location Detection System (LDS) and supporting infrastructure.
ARIADNA	Awareness Rising	Closed	Outreach activities to spread Galileo awareness and to support Public Transport Authorities and Operators interested in EGNSS.
BLUEGNSS	Aviation	Closed	Training and Required Navigation Performance (RNP) approach procedures.
InDrive	Road	Closed	Automotive enhanced positioning platform, based on the integration of GNSS and other on-board sensors.

Name of the Grant	Market Segment	Status	Description
AUDITOR	Agriculture	Closed	Improved GNSS ground-based augmentation system and services in precision agriculture based on it.
MOLIERE	Road	Open	Open data commons for mobility services, a Mobility Data Marketplace (MDM) underpinned by blockchain technology.
ESRIUM	Road	Open	EGNSS-based digital map of road damages and safety risks at centimetre-level resolution.
MISTRAL	Agriculture	Closed	Prototype of a GNSS Reflectometry sensor integrated on a dedicated Remotely Piloted Aircraft System (RPAS).
ERSAT GGC	Rail	Closed	Process and toolset for classifying tracks in terms of characteristics and reception of the GNSS signal.
HELIOS	SAR	Closed	Second Generation range of Beacons (SGB) and antennas designed to operate with the full capability of the new Meosar Cospas/Sarsat International Programme.
PRoPART	Road	Closed	High-availability positioning solution for connected automated driving applications.
DELOREAN	Aviation	Open	Integrity monitoring techniques for safe Urban Air Mobility (UAM) and Urban Air Delivery (UAD) while demonstrating EGNSS-specific services like accurate, reliable, high-precision postal delivery.
GNSS.asia3	Awareness Rising	Closed	Outreach activities promoting EGNSS in Asia through a professional communication software suite and presence at industry events in Europe and Asia.
SARA	SAR	Closed	Semi-automatic deployable RPAS (Remotely Piloted Aircraft System) tethered to a ship architecture.

Name of the Grant	Market Segment	Status	Description
BroadGNSS	Timing & Synchronisation	Open	First procurement steps to exploit EGNOS and Galileo differentiators for operational advantages in public safety.
BELS-PLUS	Awareness Rising	Closed	Promotion activities to EU companies, within EU clusters and at conferences.
CLUG	Rail	Open	Multi-sensor train-localisation system combining EGNSS and other sensors.
HELMET	Rail	Open	Advanced prototype able to provide integrity and augmentation data for road, rail and Unmanned Aerial Vehicle (UAV) applications.
GALILEO 4 Mobility	Road	Closed	Four demonstrations held across Europe to test how the integration of GALILEO technology could improve urban mobility.
GREENPATROL	Agriculture	Closed	Robotic solution for Integrated Pest Management in crops, capable of autonomously navigating greenhouses.
RADIUS	Rail	Open	Drone platform interacting with Traffic Management System and Intelligent Asset Management System.
RAILGAP	Rail	Open	High accuracy, high precision ground truth and digital maps for rail mobility.
GISCAD-OV	Surveying & Mapping	Open	Integrated solution combining GNSS and local augmentation with the whole value chain of cadastral mapping.
FLAMINGO	LBS	Closed	Data and positioning services for high accuracy positioning and navigation on Smartphones, IoT and wearables.

Name of the Grant	Market Segment	Status	Description
<u>AIOSAT</u>	LBS	Closed	Combination of a portable system for firefighters in rescue interventions and a Mobile Coordination Centre.
GALIRUMI	Agriculture	Open	Integrated solution for dairy farming composed of 2 EGNSS-powered electrocuting and laser-based defoliating weeding robots and software for mission planning and control.
SCORPION	Agriculture	Open	Safe and autonomous precision spraying tool integrated into a modular unmanned tractor which will focus on steep slope vineyards.
GIMS	Surveying & Mapping	Closed	Low-cost system based on EGNSS, Copernicus SAR and other in-situ sensors, to monitor landslides and subsidence.
SINSIN	SAR	Closed	Enhanced Personal Locator Beacon (PLB), embedded EGNSS receiver, and enhanced MEOLUT station.
PREPARE Ships	Maritime	Open	Integrated solution with new precise positioning system based on the features of Galileo and EGNSS signals within merchant ships.
GAMBAS	Maritime	Open	A modernised anti-piracy Ship Security Alert System (SSAS) beacon leveraging Galileo's return link, MEOSAR independent location capability, and solutions for rescue operators and vessels.
GOEASY	LBS	Closed	Pilot applications, ApesMobility and AsthmaWatch.
POINT.IoT	Awareness Rising	Open	Coaching support to find, mentor, and develop 20 GNSS applications in IoT.

Name of the Grant	Market Segment	Status	Description
TransSec	Road	Closed	Security truck with precise positioning and navigation, movement monitoring, communication security, pre-crash detection, and autonomous emergency manoeuvring.
GNSS.asia 4	Awareness Rising	Closed	Outreach activities promoting EGNSS in Asia through a professional communication software suite and presence at industry events in Europe and Asia.
SIA	Rail	Closed	4 ready-to-use new services for the rail sector: iWheelMon, iRailMon, iPantMon and iCatMon.
GAUSS	Aviation	Closed	High-performance positioning system for drones within U-Space framework, focusing on Very Low Level and Unmanned Aircraft System operations.
GEONAV IoT	LBS	Closed	Positioning algorithms leveraging EGNSS and Ultra Wide Band (UWB) beacons.
HUUVER	LBS	Closed	Highly integrated drone prototype combining air and ground-based propulsion to address the existing limitations of autonomous systems.
PASSport	Maritime	Open	Fleet of automated aerial (rotary wings and fixed wings) and underwater drones.
ROOT	Timing & Synchronisation	Open	Analysis from the stage of the received GNSS signals, their processing, and exploitation in the network architecture.
SKYOPENER	Aviation	Closed	Coordination-as-a-service for all stakeholders that are taking part in Remotely Piloted Aircraft System (RPAS) operations.

Name of the Grant	Market Segment	Status	Description
H2H	Maritime	Closed	Implementation of a pilot sensor package, to be demonstrated in Norway and Belgium.
AgriBIT	Agriculture	Open	Combines GNSS and EO information with on-field and on-machine sensors and actuators to deliver simple, high-precision and continuously available services
AMPERE	Surveying & Mapping	Open	Semi-automated drone with LiDAR, optical, and thermal cameras to gather information on electrical power networks, processed by a GIS cloud platform.
GAMMS	Surveying & Mapping	Open	A mapping robot for geodata acquisition and an AI-based highly automated mapping software to produce HD maps from the MMS remote sensing data

In total, five procurements (one under H2020 PRS Item 1, four under H2020 PRS item 2) were contracted in 2016 and managed between 2017 and 2021.

- The DISPATCH project planned under H2020 PRS is expected to be closed in 2022.
- The PRISMA project had four contracts, all of which were successfully closed.

The following is a list of PRS user segment projects managed in 2021:

Acronym	Title	Comments
DISPATCH	Development of Innovative PRS server-based Technologies to support future applications	H2020- PRS Item 1 One contract
PRISMA	Development of low end operational PRS receivers including security modules architectures	H2020-PRS Item 2 Four contracts

Fundamental Elements is an EU Research and Development funding mechanism supporting the development of E-GNSS-enabled chipsets, receivers and antennas and fostering the competitiveness of EU industry. The Fundamental Elements activities are included in the delegation agreements for Galileo and EGNOS exploitation, and are coordinated as an integrated activity.

In 2021, the Fundamental Elements projects related to all the E-GNSS services focused on the main market segments and, in particular:

- Aviation with two ARAIM projects, one concluded in 2020, second one still ongoing. Under EGNOS activities there are two ongoing projects (EDG2E, MUGG) focused on DFMC SBAS receiver development. In 2021 two projects (GEODESY and DEGREE) for the development of a drone-borne double frequency Galileo receivers started
- Aviation and Maritime with five MEOSAR projects: three are still on going in the last phases of testing, two successfully concluded.
- Maritime with the Satellite Based Augmentation System (SBAS) shipborne receiver (MAREC project) successfully concluded in 2020. For the development of Galileo shipborne receiver two projects are running (ASGARD and BlueBox). One project (SEGRA) on Guidelines for Manufacturers for the implementation of SBAS DFMC in shipborne receivers is on-going.
- Road with two projects (ACCURATE and ERASMO) focused on OBU for autonomous driving on-going, OS-NMA user terminal (PATROL project) successfully concluded in 2021.
- Rail with two projects (GALITS and TRAIN) that are developing railway GNSS receivers on-going.
- OS-NMA exploitation supported by two ongoing projects (ARGOS, OSNMA+) developing enhanced user terminals.
- HAS implementation is supported by 2 projects running: Galileo Reference High Accuracy Service User Algorithm and User Terminal (HAUT) and Receiver technologies for high-precision in mass-market (REMOT).
- Timing and Synchronisation with the Galileo timing receiver for critical infrastructures projects (GIANO and GEARS) successfully concluded in 2021.
- Mass Market with four projects (eMAPS, Galileo of Things, OSCAR, PROLONG) running their second halves and two projects (APOLLO and H-GEAR) successfully concluded.
- Transversal activities, such as development of multi-frequency multipurpose antenna (two projects GAMMA and MAGICA) or six projects coming from the technological call (GEYSER, GREAT, NEWSPAPER, PHOENIX, REMOT and BANSHEE) running. Another transversal project for the Development of an advanced interference detection and robustness capabilities system (EGIPRON) concluded the first phase.

- The Public Regulated Service (PRS). There was only one project for PRS called FRAME. The second specific contract was kicked off in the second quarter, with the initial work carried out until the end of the year.

In summary, in 2021 under Fundamental Elements program are running 33 projects (grants and two procurements) and seven projects have been successfully concluded.

All ongoing and concluded projects are listed below:

	Name of the project	Market segment	Status	Expected output
1	ACCURATE	Road	On-going	On-Board-Unit for fully automated driving.
2	AMETRINE	Maritime	On-going	Personal Locator Beacon including GNSS receiver with Return Link Services.
3	APOLLO	Mass Market	Concluded in 2021	GNSS software receiver for Internet of Things (IoT), Technology Readiness Level (TRL) 7.
4	ARGOS	Transversal	On-going	GNSS User Terminal implementing OS-NMA, TRL 7.
5	ASGARD	Maritime	On-going	Development of a close-to-market complete shipborne integrated equipment (TRL 7), compliant with regulatory standards for Vessel Monitoring Devices
6	BANSHEE	Transversal	On-going	Market-ready, accurate, ubiquitous and scalable navigation solution for urban environments that intends to hybridise GNSS and Wi-Fi ranging to enhance navigation performance in urban scenarios.
7	BlueBox	Maritime	On-going	Shipborne receiver based on Galileo authentication to be integrated in the EU fishery Vessels Monitoring System
8	COBALT	Maritime	On-going	Personal Locator Beacon including GNSS receiver with Return Link Services.
9	DARP	Aviation	On-going	Advanced ARAIM receiver prototype.

	Name of the project	Market segment	Status	Expected output
10	DEGREE	Aviation	On-going	Development of a drone-borne low-cost double-frequency Galileo multi-constellation receiver, integrated with INS (inertial navigation system) and other sensors
11	EDG2E	Aviation	On-going	DFMC SBAS receiver prototype.
12	EGIPRON	Transversal	On-going	Development of an advanced interference detection and robustness capabilities system
13	eMAPS	Mass Market	On-going	Localisation Based Service (with receiver) for smart cities and autonomous driving.
14	ERASMO	Road	On-going	Enhanced Receiver for autonomous driving/navigation
15	ESCAPE	Road	Concluded in 2019	GNSS Engine for autonomous driving prototype.
16	FANTASTIC	Agriculture, Surveying	Concluded in 2019	High-precision professional receiver and antenna prototypes.
17	Galileo of Things	Mass Market	On-going	GNSS software receiver for IoT, TRL 7.
18	GALITS	Rail	On-going	Receiver for localisation in train signalling
19	GAMMA	Transversal	On-going	Multi-frequency, multi-constellation antenna, TRL 7.
20	GEARS	Timing & Synchronisation	Concluded in 2021	Timing Receiver prototype TRL 7
21	GEODESY	Aviation	On-going	Development of a drone-borne low-cost double-frequency Galileo multi-constellation receiver, integrated with INS (inertial navigation system) and other sensors
22	GEYSER	Transversal	On-going	Close-to market (TRL 7) space receiver with a sufficient radiation resilience
23	GIANO	Timing & Synchronisation	Concluded in 2021	Timing Receiver prototype TRL 7
24	GLAD	Aviation	Concluded in 2020	Advanced ARAIM receiver prototype.
25	GREAT	Transversal	On-going	Development, test and demonstration of the next generation of low-cost GNSS reference stations.

	Name of the project	Market segment	Status	Expected output
26	HAUT	Transversal	On-going	Galileo Reference High Accuracy Service User Algorithm and User Terminal
27	H-GEAR	Mass Market	Concluded in 2021	eCall and anti-theft system, including a device, TRL 7.
28	iSAAR	Aviation	On-going	MEOSAR beacon for aviation.
29	MAGICA	Transversal	On-going	Multi-frequency, multi-constellation antenna, TRL 7.
30	MAREC	Maritime	Concluded in 2020	SBAS-enabled Shipborne Receiver, TRL 7.
31	MUGG	Aviation	On-going	DFMC SBAS receiver prototype.
32	NEWSPAPER	Transversal	On-going	Spaceborne GNSS receiver for NewSpace, capable of Precise Point Positioning (PPP) based on Galileo's E6 signal
33	OSCAR	Mass Market	On-going	GNSS receiver for premium mass market.
34	OSNMA+	Transversal	On-going	GNSS User Terminal implementing OS-NMA, TRL 7.
35	PATROL	Road	Concluded in 2021	User Terminal implementing OS-NMA capability for digital tachograph.
36	PHOENIX	Maritime	Concluded in 2021	Personal Locator Beacon including GNSS receiver with Return Link Services.
37	PHOENIX	Transversal	On-going	Developed of a GNSS OEM-board receiver with PPP capability
38	PROLONG	Mass Market	On-going	Prototype of a receiver for Premium Mass Market (IoT).
39	REMOT	Transversal	On-going	Development of a prototype of a wearable device enabled by data fusion of GNSS precise positioning and IMU to retrieve the kinematic of the movement of a person
40	SEGRA	Maritime	On going	Guidelines for Manufacturers for the implementation of SBAS DFMC in shipborne receivers
41	TAUCETI	Aviation	Concluded in 2021	MEOSAR ELT beacons for aviation.
42	TRENI	Rail	On going	Development of a railway GNSS receiver and antenna for use within a safe train positioning platform suitable for railway safety-related applications.

	Name of the project	Market segment	Status	Expected output
43	UNION	Transversal	On going	Development and validation/demonstration of real-time GNSS receiver algorithm(s) based on a hybrid solution making use of Galileo High Accuracy Service, other high accuracy techniques and connectivity
44	FRAME	Public regulated service	On going	Analysis, standards and risk assessments.

In 2021 the Agency, in line with the current developments, defined the next FE Work Programme (WP) for the period 2021-2027 that will be driven and prioritised by market segments user needs.

A particular focus of the new programme will be on non-mature market with low EGNSS penetration (e.g. critical infrastructure) or on long lead term market (e.g. Rail).

In addition, the new developments will be oriented to commercial products with a clear-cut from prototype receivers (that were developed in the past to leverage new services).

As in the past the objective was to anticipate the Galileo differentiators, the new FE framework is focused on the operational implementation of current differentiators as OS-NMA, HAS and triple frequency to ensure the successful development and ramp up of new and enhanced Galileo services introduced by its evolutions. In parallel, the commercial implementation of new differentiators as CAS (Commercial Authentication Service) or ARAIM (Advanced Receiver Autonomous Integrity Monitoring) will be explored.

1.7.5 Entrepreneurship initiative (CASSINI) and other adoption activities

In December 2021, the Agency concluded a contribution agreement with DG Move for the follow up of green lane project. This is an important milestone witnessing the capability of the Agency to partner with different Commission DGs and ensuring the continuity of the project.

The Agency also started to work on Copernicus market development and user uptake, focusing on business and commercial users. Together with the Commission, EUSPA was exploring several industrial ecosystems to understand which gaps can be filled in with Copernicus data and how to foster new users.

The Agency has been delegated actions to support start-ups and entrepreneurship.

During the first entrepreneurship day more than 80 start-ups from 25 countries which competed in the finals of MyGalileoSolutions and MyGalileoDrones pioneering challenges were presented. In the MyGalileo series, EUSPA received over 600 applications, involving more than 2000 entrepreneurs from many Member States. The winning ideas of MyGalileo Solution were focused on the use of GNSS in the innovative areas of robotics, Internet of Things, enhanced human, professional sports monitoring, smart anchoring and mobile gaming. As evolution of the myEUSolutions challenge initiatives, MyEUspace was launched in 2021 and received applications from more than 200 start-ups coming from 26 European countries.

EUSPA also worked to support start-ups, following up the winners and most promising companies emerged from MyGalileo series, favouring their access to finance via the cooperation with Venture Capitalists and other private funding organisation such the European Business Angels network.

In 2021, EUSPA supported European Commission in the organisation of the Europe-wide Cassini Hackathons focusing on Green Deal and Arctic.

2. Management

2.1 Management Board

The Agency has an Administrative Board that is described in section 2.1.1. It also has a separate SAB, which is responsible for accreditation matters, described in section 2.1.2.

2.1.1 The Administrative Board

The Administrative Board brings together representatives of the Member States, EU Institutions, Norway and the ESA. The Administrative Board is responsible for defining the Agency's priorities, establishing the budget and monitoring the Agency's operations.

2.1.1.1 Composition

Voting Members	EU Member States (27 representatives) and EC (3 representatives). A detailed list of Board Members is available on the Agency website .
Non-Voting Members	European Parliament (1 representative with 1 alternate), Norway
Observers	Chair of the SAB High Representative for Foreign Affairs and the Security Policy (1 representative) ESA (1 representative)
Chair	Mr Alberto Tuozi (acting until 17 June 2021) / Mr Václav Kobera (from 18 June 2021)
Deputy Chair	Mr Alberto Tuozi (Acting Chair since 24 June 2020) / Mr Juan-Manuel Codosero Bolaños (from 29 June 2021)

2.1.1.2 List of Administrative Board Decisions

The Administrative Board met five times in 2021: January, April, June (x2), and October. These meetings, named AB 63, 64, and then EUSPA AB 1, EUSPA AB 2, EUSPA AB 3, decided upon the following items:

Mtg	Date	Decision number	Title
63	28/01/2021	63-21-01-01	Adoption of the agenda
63	28/01/2021	63-21-01-02	Minutes of the AB 62 meeting
63	28/01/2021	63-21-01-03	Decision on non-automatic carryover of payment appropriations for 2020 Budget
63	28/01/2021	63-21-01-04	Decision on the first amendment of 2021 Budget
63	28/01/2021	63-21-01-05	Decision on adopting the draft 2022 Budget
63	28/01/2021	63-21-01-06	Endorsement of the provisional Single Programming Document 2022-2024
63	28/01/2021	63-21-01-07	Decision adopting the GSA Internal Control Framework
63	28/01/2021	63-21-01-08	Implementing Rules on the Prevention and Management of Conflicts of Interest
64	26/03/2021	64-21-03-01	Adoption of the agenda
64	26/03/2021	64-21-03-02	Minutes of the AB 63 meeting
01	17/06/2021	01-21-06-01	Adoption of the agenda
01	17/06/2021	01-21-06-02	Minutes of the AB 64 meeting
01	17/06/2021	01-21-06-04	Decision adopting the Annual Activity Report of the European GNSS Agency for year 2020
01	17/06/2021	01-21-06-05	Adoption of the Annual Accounts for 2020
01	17/06/2021	01-21-06-06	Decision on the second amendment of 2021 Budget
01	17/06/2021	01-21-06-07	Rules of Procedure for the election of the Chair and Deputy Chair of the Administrative Board
02	28/06/2021	02-21-06-01	Adoption of the agenda
03	26/10/2021	03-21-10-01	Adoption of the agenda
03	26/10/2021	03-21-10-02	Minutes of the EUSPA AB 1 meeting
03	26/10/2021	03-21-10-03	Minutes of the EUSPA AB 2 meeting
03	26/10/2021	03-21-10-04	Adoption of the EUSPA Administrative Board Rules of Procedure
03	26/10/2021	03-21-10-05	Adoption of the EUSPA Organisation Chart
03	26/10/2021	03-21-10-06	Decision on approving Amendment No.1 to the Host Agreement with the Czech Republic
03	26/10/2021	03-21-10-07	Decision on the appointment of Members of the Complaints Committee
03	26/10/2021	03-21-10-08	Decision approving the Annual Work Plan of the Internal Audit Capability for 2022-23

The Administrative Board made the following decisions based on written procedures:

WP	Date	Reference:	Title
77	17/03/2021	GSA-AB-WP-77	Decision approving the Amendment No 2 to Working Arrangement between the European GNSS Agency and the European Space Agency on the Exploitation Phase of the GALILEO Programme
78	17/03/2021	GSA-AB-WP-78	Decision approving the Amendment No 3 to Working Arrangement between the European GNSS Agency and the European Space Agency on the Future Implementation of the EGNOS Programme
79	06/04/2021	GSA-AB-WP-79	Decision on the appointment of members of the Complaints Committee
80	11/05/2021	GSA-AB-WP-80	Decision adopting the Single Programming Document 2021-2023
01	01/10/2021	EUSPA-AB-WP-01	Decision on the second amendment of 2021 Budget
02	14/12/2021	EUSPA-AB-WP-02	Decision on the Amendment of the Single Programming Document 2021-2023

2.1.2 The Security Accreditation Board

The SAB is the security accreditation authority for all of the EU Space Programme's components and takes its decisions in an independent manner including with regard to the Commission and the other bodies responsible for the implementation of the components and provision of service.

SAB objectives include verifying that the systems comply with the applicable security rules and regulations as established by the Council and the EC. They also include ensuring the systems continuously comply with applicable security requirements, identifying possible new risks and, where appropriate, complementing the system security plan.

2.1.2.1 Composition

The SAB brings together representatives of the Member States, EC, the High Representative for Foreign Affairs and the Security Policy, ESA and Norway.

Members	EU Member States (27 representatives)
Non-voting Members	EC (1 representative) High Representative for Foreign Affairs and the Security Policy (1 representative) Norway (1 representative)
Observers	ESA (1 representative)
Chair	Mr Bruno Vermeire

Deputy Chair	Mr Claude Schanet
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2.1.2.2 List of Accreditation Board Decisions

The Security Accreditation Board met five times in 2021. These meetings, numbered 47, 47b, 48, 49 and 50, decided upon the following items:

Mtg	Date	Decision Number	Title
SAB#47	25/03/2021	D1	Adoption of the agenda SAB#47
SAB#47	25/03/2021	D2	Authorisation of OSPF v2B.12.04.0
SAB#47	25/03/2021	D3	1 month administrative extension for the IATO certificate and for the IS certificate for the Galileo system
SAB#47	25/03/2021	D4	Authorisation of the use of IPA/LTS test tools in VAL environment for an additional period till end June 2021
SAB#47	25/03/2021	D6	Approval of five PRS authorisation decisions as presented during the SAB#47
SAB#47b	01/06/2021	D1	Adoption of the agenda of SAB#47b
SAB#47b	01/06/2021	D2	Adoption of SAB#47 MoM
SAB#47b	01/06/2021	D3	Adoption of EUSP SAB Rules of Procedure (ref EUSPA-SAB-ACC-MGT-A11803 v3.0).
SAB#47b	01/06/2021	D4	Establishment of a panel in accordance with Article 82(3) of Regulation (EU) 2021/696 and approved its terms of reference (ref EUSPA-SAB-ACC-MGT-A11772 v3.0) and its Annex A (ref EUSPA-SAB-ACC-MGT-A11808 v1.0).
SAB#47b	01/06/2021	D5	Establishment of a special subordinate body in accordance with Article 38(3) of Regulation (EU) 2021/696 and approved its terms of reference (ref EUSPA-SAB-ACC-MGT-A11774 v1.0)
SAB#47b	01/06/2021	D6	Galileo System IATO statement and Galileo Initial Services Authorisation statement as proposed in SAB Decision Note 47b/01 (statements valid until 31st December 2021)
SAB#47b	01/06/2021	D7	Pre-authorisation to operate System Build 1.7 (included GCS 3.0.5 and ENOC), until 30 June 2021.
SAB#48	24/06/2021	D1	Adoption of the agenda SAB#48
SAB#48	24/06/2021	D2	Adoption of SAB#47b MoM
SAB#48	24/06/2021	D3	Authorisation to Operate System Build 1.5.1.
SAB#48	24/06/2021	D4	Pre-authorisation to operate System Build 1.7 until 31 October 2021.
SAB#48	24/06/2021	D5	The SAB decided not to authorise the Third OSPF.
SAB#48	24/06/2021	D6	The SAB decided not to authorise the requested additional products (RINEX navigation message and GMS almanac) to be published from the GSC website.
SAB#48	24/06/2021	D7	Extension by three months of the OS-NMA internal testing phase.
SAB#48	24/06/2021	D8	The SAB agrees that the new GSS Kerguelen follows the accreditation approach presented in the technical note GSA-SEC-SAP-TN-A09954 by EUSPA.
SAB#48	24/06/2021	D9	The SAB decided not to authorise the pre-OPE/OPE connection.
SAB#48	24/06/2021	D10	The SAB cannot decide at this stage whether the G1G SAS will be applicable for G2G.
SAB#48	24/06/2021	D11	The SAB approved the decision as proposed in the Decision Note 48/2 "Setup of the SAB Special Body on Flight Keys and on launch campaign governance applicable as of 2021 (update of SAB decision 46/02)"
SAB#49	07/10/2021	D1	Adoption of the agenda SAB#49
SAB#49	07/10/2021	D2	Adoption of SAB#48 MoM
SAB#49	07/10/2021	D3	Approval of the SAB meeting calendar for 2022
SAB#49	07/10/2021	D4	Decision to maintain the Galileo System IATO certificate until its expiration in December 2021 and assess progress on the IATO conditions before extending it
SAB#49	07/10/2021	D5	Decision to maintain the pre-ATO for System Build 1.7 until the end of December
SAB#49	07/10/2021	D6	Decision on Launch 11 and delegation to SAB chair
SAB#49	07/10/2021	D7	Authorisation of declaration of the OS Enhanced Service Step 3
SAB#49	07/10/2021	D8	Endorsement of the service declaration for the PRS Initial Service update as defined in the PRS SDD v1.1.

SAB#49	07/10/2021	D9	Authorisation of the publication of the GMS almanac on the GSC website.
SAB#49	07/10/2021	D10	Authorisation of a public observation test phase of OS NMA
SAB#49	07/10/2021	D11	Extension of SAB#45 D16 dated November 6th, 2020, on the extension of Scope on SAB Decisions for the authorisation to include the manufacturing PRS receivers or PRS security modules, till 30 June 2022.
SAB#49	07/10/2021	D12	The SAB accepts the Programme request for security accreditation of EGNOS v2
SAB#50	09/12/2021	D1	Adoption of the agenda SAB#50
SAB#50	09/12/2021	D2	Adoption of SAB#49 MoM
SAB#50	09/12/2021	D3	Mandate to the chair to attend the in-orbit test review for the launch 11 satellites.
SAB#50	09/12/2021	D4	Agreement on a sentence to be added to each decision, until an appropriate classified network is available for meetings and exchange of classified information.
SAB#50	09/12/2021	D5	Renewal of the certificate of the Galileo System IATO till 31 December 2022
SAB#50	09/12/2021	D6	Authorisation of the Galileo service provision of OS, PRS, and SAR, as per their current service definition documents and anticipating the versions approved in SAB#49 until 31st December 2022
SAB#50	09/12/2021	D7	Approval of Launch 11 in-orbit testing (IOT)
SAB#50	09/12/2021	D8	Delegation to the SAB chair to participate to the ORR, LRR1 and LRR2 for Launch 12
SAB#50	09/12/2021	D9	Decision note 50/12 on the Launch 12 to the Programme
SAB#50	09/12/2021	D10	The SAB does not authorise connection between the 4 pre OPE sites (GCCs and GSMCs).
SAB#50	09/12/2021	D11	Authorisation of the connection of INSPIRE G2 subsystem in MCC Torrejon for the duration of the testing campaign, pending a successful SAR.
SAB#50	09/12/2021	D12	Decision on the applicability of the current SAS, ref GSA-SABACC-PRCS-A09228, applicable to the EGNOS v2 accreditation activities.

In addition, the SAB took the following decisions in 2021 via written procedure:

Date	Decision Number	Title
12/01/2021	SAB#46 D15	Extension of SAB authorisation of PRS body
10/01/2021	SAB#46 D16	Approval of SAB#46 meeting MoMs
20/01/2021	SAB#46 D17	Extension of SAB authorisation of PRS body
27/01/2021	SAB#46 D18	Extension of SAB authorisation of PRS body
27/01/2021	SAB#46 D19	Extension of SAB authorisation of PRS body
27/01/2021	SAB#46 D20	SAB authorisation of PRS body
27/01/2021	SAB#46 D21	SAB authorisation of PRS body
17/02/2021	SAB#46 D22	Extension of SAB authorisation of PRS body
02/03/2021	SAB#46 D23	Extension of SAB authorisation of PRS body
05/03/2021	SAB#46 D24	Extension of SAB authorisation of PRS body
17/03/2021	SAB#46 D25	SAB authorisation of PRS body
17/03/2021	SAB#46 D26	SAB authorisation of PRS body
18/03/2021	SAB#46 D27	SAB GRON connection CPA DE Bonn
18/03/2021	SAB#46 D28	SATO administrative extension Troll (NO)
18/03/2021	SAB#46 D29	SATO administrative extension Svalbard (NO)
19/03/2021	SAB#46 D30	Extension of SAB authorisation of PRS body

22/03/2021	SAB#46 D31	EGNOS v3 security accreditation strategy approval
20/04/2021	SAB#47 D8	Approval of CAAR 2020 (accreditation related sections)
23/04/2021	SAB#47 D9	GRON connection maintenance - FR CPA Paris
23/04/2021	SAB#47 D10	Approval on the establishment of a working group on the terms of reference of the SAB special subordinate bodies
29/04/2021	SAB#47 D11	Extension of SAB authorisation of PRS body
29/04/2021	SAB#47 D12	SAB authorisation of PRS body
29/04/2021	SAB#47 D13	SAB authorisation of PRS body
30/04/2021	SAB#47 D14	Decision to approve the accreditation related sections of the Multi-annual Work Programme 2021-2027
30/04/2021	SAB#47 D15	Decision for the replacement of Chiasmus from 2022 onwards
29/04/2021	SAB#47 D16	Decision on administrative extension of the IATO and IS certificates
10/05/2021	SAB#47 D17	Extension of SAB authorisation of PRS body
10/05/2021	SAB#47 D18	Extension of SAB authorisation of PRS body
10/05/2021	SAB#47 D19	Extension of SAB authorisation of PRS body
11/05/2021	SAB#47 D20	SAB authorisation of PRS body
11/05/2021	SAB#47 D21	SAB authorisation of PRS body
11/05/2021	SAB#47 D22	SAB authorisation of PRS body
11/05/2021	SAB#47 D23	SAB authorisation of PRS body
11/05/2021	SAB#47 D24	SAB authorisation of PRS body
11/05/2021	SAB#47 D25	SAB authorisation of PRS body
11/05/2021	SAB#47 D26	SAB authorisation of PRS body
11/05/2021	SAB#47 D27	SAB authorisation of PRS body
07/05/2021	SAB#47 D28	SAB decision on SAB planning for SB 1.7 decision making
19/05/2021	SAB#47 D29	Extension of SAB authorisation of PRS body
08/06/2021	SAB#47 D30	SAB authorisation of PRS body
18/06/2021	SAB#47b D8	Extension of SAB authorisation of PRS body
25/06/2021	SAB#47b D9	Extension of SAB authorisation of PRS body
30/06/2021	SAB#47b D10	SATO Kourou
30/06/2021	SAB#47b D11	SATO Papeete
30/06/2021	SAB#47b D12	SATO TGVF Noordwijk
28/06/2021	SAB#47b D13	IPA and LTS test tools connection in VAL
06/07/2021	SAB#47b D14	GRON subscriber site - maintenance of connection to GRON - EEAS, Brussels
12/07/2021	SAB#48 D12	SAB authorisation of PRS body
12/07/2021	SAB#48 D13	SAB authorisation of PRS body
12/07/2021	SAB#48 D14	SAB authorisation of PRS body
12/07/2021	SAB#48 D15	SAB authorisation of PRS body
23/07/2021	SAB#48 D16	Plan for security test campaign
27/07/2021	SAB#48 D17	Third OSPF authorisation
27/07/2021	SAB#48 D18	SATO Redu GSS and TT&C (BE)
29/07/2021	SAB#48 D19	SAB authorisation of PRS body
29/07/2021	SAB#48 D20	SAB authorisation of PRS body

29/07/2021	SAB#48 D21	SAB authorisation of PRS body
30/07/2021	SAB#48 D22	Pre SATO for GCC-D delta GCS 3.0 and ENOC (DE)
09/08/2021	SAB#48 D23	Extension of SAB authorisation of PRS body
11/08/2021	SAB#48 D24	SAB authorisation of PRS body
11/08/2021	SAB#48 D25	SAB authorisation of PRS body
11/08/2021	SAB#48 D26	SAB authorisation of PRS body
11/08/2021	SAB#48 D27	SAB authorisation of PRS body
17/09/2021	SAB#48 D28	SAB authorisation of PRS body
17/09/2021	SAB#48 D29	Extension of SAB authorisation of PRS body
17/09/2021	SAB#48 D30	Extension of SAB authorisation of PRS body
17/09/2021	SAB#48 D31	Extension of SAB authorisation of PRS body
17/09/2021	SAB#48 D32	Extension of SAB authorisation of PRS body
17/09/2021	SAB#48 D33	Extension of SAB authorisation of PRS body
24/09/2021	SAB#48 D34	Extension of SAB authorisation of PRS body
17/09/2021	SAB#48 D35	Extension of SAB authorisation of PRS body
01/10/2021	SAB#48 D36	SAB authorisation of PRS body
08/10/2021	SAB#48 D37	Extension of SAB authorisation of PRS body
08/10/2021	SAB#48 D38	Extension of SAB authorisation of PRS body
13/10/2021	SAB#48 D39	Extension of SAB authorisation of PRS body
13/10/2021	SAB#48 D40	SATO Kiruna GSS and TTC
26/10/2021	SAB#49 D13	SAB authorisation of PRS body
26/10/2021	SAB#49 D14	SATO GRSP (ESOC Darmstadt)
26/10/2021	SAB#49 D15	SATO Kerguelen (FR new site).
12/11/2021	SAB#49 D16	Approval of the accreditation related sections of the Agency's SPD 2023-2025.
09/11/2021	SAB#49 D17	SATO GRSP GCC-I EE
09/11/2021	SAB#49 D18	Extension of SAB authorisation of PRS body
29/11/2021	SAB#49 D19	SATO Saint-Pierre (FR)
29/11/2021	SAB#49 D20	SATO - Kerguelen (FR).
03/12/2021	SAB#49 D21	Extension of SAB authorisation of PRS body
16/12/2021	SAB#49 D22	Extension of SAB authorisation of PRS body
23/12/2021	SAB#50 D13	SAB authorisation of PRS body
23/12/2021	SAB#50 D14	Extension of SAB authorisation of PRS body
22/12/2021	SAB#50 D15	Decision Note 50/12 on F-FK L12 (VS28) activation and activities

2.2 Major Developments

Over the reporting period, several programme and administration developments took place in the Agency, both for core and delegated tasks. These are described throughout this document, but a few of them are highlighted below:

- Strong response to COVID-19 pandemic across all sites ensuring the Health and Safety of staff and the continuity of the operations
- Reach of 2.5 billion Galileo-enabled devices globally
- Galileo Open Service Navigation Message Authentication (OSNMA) entered into testing phase.
- First infonote for the Galileo High Accuracy Service (HAS)
- Upgrade of Galileo and EGNOS ground segments
- Launch of myEUspace Competition
- 1 million views of GSA/EUSPA, UseGalileo.eu and GSC website
- EUSPA communication campaign for the new Agency with a reach of 2 million citizens
- Launch of the 1st Horizon Europe call

2.3 Budgetary and financial management

The Agency's own executed budget in 2021 in terms of commitment appropriations was 57 130 215,17 EUR, which represents 100% budget execution, despite the continuing COVID-19 pandemic situation. In addition to its core budget, the Agency continued to manage a large amount of delegated budget. A total of 6,3 billion EUR was committed under delegated budget in 2021 and 1,575 billion EUR made in payments.

In terms of core budget breakdown, the total expenditure on staff costs was 26 818 731,62 EUR, other administrative costs amounted to 10 857 284,28 EUR and expenditure on operational costs was 19 454 199,27 EUR.

Furthermore, during 2021:

- Budget execution was 100% in commitment appropriations and 100% in 2021 payment appropriations. This takes into account the non-automatic carry-forward, which helps the Agency maintain its payment capacity on legal obligations still existing for commitments made in the prior year.
- The Agency's Administrative Board approved three budget amendments. The Agency's Administrative Board approved 2021 amending budget number 1 on 28 January 2021 reducing the overall appropriations by 35 977 629,55 EUR bringing the budget to the amount of 37 008 372,45 EUR.
- In the second budget amendment the Agency's Administrative Board approved the increase of the overall budget, reflecting the additional tasks of the Agency and an additional 41 posts approved for the Agency. Commitment appropriations were increased by 20 067 993 EUR bringing it to the final amount of 57 076 365,45 EUR. Payment appropriations were increased by 12 718 370 EUR bringing it to the final amount of 49 726 742,45 EUR
- Finally, the amending budget no. 3 increased commitment appropriations by 53 849,72 EUR in order to align with the final amount of EFTA contribution received. Payment appropriations were further decreased by 5 582 527,28 EUR. The final budget reached the amount of 57 130 215,17 EUR in commitment appropriations and 44 144 215,17 EUR in payment appropriations.
- The Agency continued to manage a large amount of delegated budget, in particular under the EGNOS Exploitation, Galileo Exploitation, and Horizon 2020 Delegation Agreements as mentioned above. In addition, the Agency signed in 2021 a contribution agreement with the European Commission entrusting the Agency with additional components as per the Space Programme Regulation: Horizon Europe, Copernicus, GOVSATCOM and SSA.
- In quantitative terms, the Agency carried out 4 067 financial transactions, which corresponds to the increase of 7% in comparison to the previous year.
- Payment appropriations totalling EUR 4 177 213,85 were carried over on Title 2 (automatic carry-over) from 2020 to 2021, representing 59,78 % of the total 2020 Title 2 budget. Furthermore, EUR 7 402 986,04 was carried over from 2021 to 2022, representing 68 % of 2021 Title 2.
- Payment appropriations in the amount of EUR 870 792,31 were carried over on Title 3 (non-automatic carry over) from 2020 to 2021. Payment appropriations totalling EUR 2 313 328,29 were carried over on Title 3 (non-automatic carry over) from 2021 to 2022 to maintain the Agency's payment capacity on existing legal obligations.

- According to payment time statistics 98,7% of all payments were done within the applicable time limit of 30 days, 60 days or 90 days and with an average payment time of 18,1 days.
- The Agency paid 22 684,94 EUR in late interest to suppliers.
- The cancellation rate of payment appropriations carried over from 2020 to 2021 was 3% (177 030,53 EUR) of the amount carried over.
- Budget outturn resulted in -59 920,64 EUR in 2021.

For further details on the budget implementation for the reporting period, please see the [Report on Budgetary and Financial Management 2021](#) on the Agency's website. Statistical information is also available in Annex II of this document.

The entire Agency revenue for the reporting period comes from the EU budget and EFTA contribution. No other sources of funding were available.

2.4 Human Resources Management

The Agency deployed in the best efficient way all the available resources to fulfil its assigned areas of competence in order to achieve optimisation by relying on a pro-active, modern and forward looking, efficient set of HR policies, planning & monitoring tools and related processes driven by balancing risk, and assuring compliance with its regulations.

The Agency continued its effort to attract and recruit highly competent staff through an integrated talent acquisition approach. This was supported through processes of strategic workforce planning including external and inter-agencies recruitment and internal staff deployment promoting career development. Recruitment continued to utilise extensive and targeted advertising of the vacancy notices through the Agency e-recruitment tool, specialised job boards as well as social media combined with initiatives to increase its visibility and employer branding. Video interviewing suite and online interviews further streamlined the selection procedures and contributed to the retention of the best qualified candidates.

The Agency concluded the year 2021 with full execution of its establishment plan (100%). It is worth remarking explicitly that the Agency achieved the fulfilment of the establishment plan despite the difficulties imposed by the COVID-19 crisis restrictions and need to fill additional 41 posts. The Agency swiftly and smoothly moved to full online selection and recruiting modes which ensured continuity. To maintain the

quality and effectiveness of its selection procedures, the Agency makes use of competency-based interviews, and assessment centres for managerial positions. The Agency also onboarded newcomers remotely whenever the situation did not allow for a physical presence on the site.

At the end of 2021, all 191 TA posts were occupied (including 22 offers). In addition, 56 posts were allocated to CA type of posts. The Agency had 7 seconded national experts (SNE) in 2021, bringing the total number of staff to 254.

The Agency was allocated 41 additional TA posts for its 2021 establishment plan. The new posts were allocated to priority areas. In 2021, eleven TAs left the Agency, resulting in a total of 52 vacant TA positions. To accommodate this in an efficient manner, the Agency further streamlined its recruitment procedures and designed vacancies with a broader scope to cover more posts with similar profiles, from one selection procedure. Consequently, the EUSPA managed to fill all vacancies, hence the execution of the 2021 establishment plan was 100%. The Agency was allocated 34 CA posts, but at the end of 2021 had 56 CAs in place. This represents a decrease of 6 CAs from the 62 CAs in place at the beginning of 2021 and the net reduction is part of the gradual and progressive alignment of the Agency's CA numbers with the legislative financial statement, as agreed with the European Commission.

Overall, the Agency published 47 selection procedures, processed over 3500 applications and conducted around 400 interviews. The rate of resignations has slightly increased compared to previous year. The Agency employed 29 trainees for traineeships lasting up to one year (9 more compared to 2020).

The Agency successfully accommodated the growing number of staff via comprehensive induction trainings, and streamlined HR services, mainly remotely due to the COVID-19 pandemic.

One new agreement with an international school was concluded in Madrid (Spain). The Accredited European School in Paris has become operational, and it has enabled priority access to the Agency's staff children.

Significant effort was dedicated to further streamline and automate the human resources management processes to achieve efficiency gains. In this context, the Agency continued on the deployment of various Sysper modules. The agency has also researched and identified the suitable budget and workforce management tool to be purchased in the near future. This tool might also accommodate the need for the activity-based time reporting as required by the auditors.

Despite the COVID-19 crisis restrictions, the Agency strengthened significantly its efforts to provide learning and development support to staff. Strategic Learning and Development priorities were identified and

followed up by a comprehensive training offer to staff. Trainings were performed mainly online and the average number of training days per staff member increased to 7.

The Agency made a stronger use of the corporate Commission learning management system and channels which further strengthened the cost-efficient approach in relation to developmental activities.

The Agency reframed the approach to group training events as they could be organised only online. The Agency organised remote team events, language courses, awareness sessions targeting the promotion of a respectful workplace environment and protection of workforce dignity etc. In 2021 the Agency continued with its Cyber Security Awareness programme aiming to approach the cyber security cross-functionally. Four shorter briefing sessions helped to raise awareness about the importance of cyber security and one annual large-scale event for all staff, with simulations of the cyber security challenges.

Particular attention was paid to the well-being of staff during the COVID-19 pandemic. The Agency continuously and regularly communicated to all staff on the situation and local measures in all our locations, including mandatory antigen testing prior to entry to all sites, and the provision of the COVID-19 and influenza vaccines. A particular effort was also dedicated to the mental aspects of the staff wellbeing, including initiatives for informal online gathering, tips & tricks on how to telework, health related support etc.

2.5 Assessment by Management

Article 30.2 of the GSA Financial Regulation 2019 defines Internal Control as a process applicable at all levels of management and designed to provide reasonable assurance of achieving the following objectives:

- Effectiveness, efficiency and economy of operations;
- Reliability of reporting;
- Safeguarding of assets and information;
- Prevention, detection, correction and follow-up of fraud and irregularities;
- Adequate management of the risks relating to the legality and regularity of the underlying transactions, taking into account the multiannual character of the programmes, as well as the nature of the payments concerned.

The Agency's responsibilities will significantly expand now due to the consolidation of its operational role with a much broader roles in the administration of Space programs. Preparatory activities recently started

for GOVSATCOM, and with the planned transformation of the Agency into EUSPA, other new activities will start. Accordingly, the Agency is upgrading its internal controls, and will continue to be regularly audited by the Agency's Internal Audit Capability (IAC), the Commission's Internal Audit Service (IAS), DG DEFIS and the European Court of Auditors.

In 2021, the Agency Administrative Board approved new control standards under GSA Internal Control Framework.

A first joint-audit with DG DEFIS was executed by GSA Internal Audit Capability on delegated funds to ESA for 2020 expenditure for both EGNOS and Galileo with the positive result of no findings.

2.5.1 Register of Exceptions

The Agency has a procedure in place for registering exceptions. Its overall objective is to establish appropriate arrangements to explain, register and report any exceptional circumstance of overriding controls or deviations from the established regulatory framework in accordance with the principle of transparency. Before any action is taken, an exception must be documented, justified and approved at the appropriate level.

There were 6 exceptions registered in 2021, none of which materially affected the overall sound financial management of the Agency. The Agency has shared the Register of Exceptions with external auditors and with the IAS.

2.5.2 Implementation of grants

Subject to the following exceptions, the GSA complied with the time limits laid down in Article 194(2) of the Financial Regulation.

Concerning the grant GSA/GRANT/02/2019 *"Shipborne double frequency multi-constellation receiver (E1/E5)"*, with respect to the signature of the two grant agreements, the three months deadline was exceeded of 20 days in one case and of 18 days in another one due to several iterations with the consortium members in order to collect the supporting documents to the declarations on honour and due to several clarifications raised by coordinators with regard to the content of the grant agreement and its annexes before signature. Such delay is also to be attributed to COVID-19 pandemic.

Concerning the grant GSA/GRANT/04/2019 “Filling the gaps and emerging E-GNSS receivers technologies”, with respect to the signature of the grant agreements, the three months deadline was exceeded due to several iterations with the consortium members in order to collect supporting documents to the declarations on honour and the required mandate. Such delay is to be attributed mainly to COVID-19 pandemic.

Concerning the grant GSA/GRANT/06/2019 “Receiver technologies for high-precision in mass-market”, with respect to the signature of the grant agreement, the three months deadline was exceeded of 20 days due to several iterations with the consortium members in order to collect supporting documents to the declarations on honour and the required mandate. Such delay is to be attributed mainly to COVID-19 pandemic.

Concerning the grant GSA/GRANT/05/2019 “Receiver for localisation in train signalling”, with respect to the signature of the grant agreements, the three months deadline was exceeded due to the several iterations with the consortium members in order to collect supporting documents to the declarations on honour and due to the late submission from the coordinators of the IPR list to be annexed to the agreement. Such delays are to be attributed mainly to COVID-19 pandemic.

Concerning the grant GSA/GRANT/07/2019 “Development of a drone-borne double frequency Galileo receiver” with respect to the evaluation process, the six months deadline was exceeded of 10 days due to the considerable amount of administrative documentation to be examined and numerous requests for clarifications. With respect to the signature of the grant agreements, the three months deadline was exceeded due to the multiple iterations with the consortium members in order to collect supporting documents to the declarations on honour. Such delay is to be attributed mainly to COVID-19 pandemic.

2.6 Budget implementation tasks entrusted to other services and entities

Not applicable.

2.7 Assessment of audit results during the reporting year

2.7.1 Internal Audit Service (IAS) and the Agency's Internal Audit Capability (IAC)

Overall, the reports by internal and external auditors provided a positive assessment and perception of the Agency and have provided valuable feedback on the areas to be improved. A brief overview of the Agency's new audit activity for the year is offered below.

EUSPA completed the implementation of the Internal Audit Service the 2019 audit on EGNOS Exploitation. IAS completed their assessment. Their opinion will be formalised soon.

In the summer of 2020, the Internal Audit Service (IAS) started the execution of an audit on Galileo Exploitation. The audit report was finalised only in Q2 2020 due to the challenges posed by COVID-19. The audit report was released in 2021 and included four important recommendations (not critical nor very important). At least two thirds of the actions implementing recommendations have already been executed. Most important actions include: Establish a forum with participants from the key Galileo stakeholders, review the current processes to achieve Open Service FOC and attempt to foster appropriate corrective actions to avoid further delays; Finalise the implementation of the corrective actions under the responsibility of the Agency from the report on the July 2019 incident as soon as possible; and also the Agency will refine a methodology for assessing the human resource needs for Galileo tasks and continuously revise and adapt as necessary a long-term human resource plan for Galileo activities.

The Internal Audit Service (IAS) executed the 2022-2024 Strategic Internal Audit Plan for EUSPA (EUSPA SIAP), defining IAS audit targets at EUSPA for the next three years. The audit plan is based on the results of an in-depth risk assessment carried out by the IAS in November 2021 and covering all EUSPA auditable entities. The EUSPA SIAP was completed in 2022.

The EUSPA Internal Audit Capability (IAC) activity in 2021 significantly enhanced its activity in 2021 whose key deliverable was providing assurance on a compliance audit of the Recruitment process (ongoing) which was finalised in Q1/2022.

IAC also participated to a joint financial audit of EUSPA and DG DEFIS on 2020 expenditure related to the Agency's Working Arrangements between the European GNSS Agency and the European Space Agency on the (i) Exploitation Phase of the GALILEO Programme, and (ii) the Future Implementation of the EGNOS Programme. The ESA audit was finalised with no findings.

Over the last two years, IAC cooperated with ICC on several areas, such as the definition of an ESA Control Strategy in 2021 aiming at providing a first overall overview of both ex-ante and ex-post controls on ESA expenditure, including audits. The latter jointly executed in cooperation with DG DEFIS.

The Internal Audit Service (IAS) executed the 2022-2024 Strategic Internal Audit Plan for EUSPA (EUSPA SIAP), defining IAS audit targets at EUSPA for the next three years. The audit plan is based on the results of an in-depth risk assessment carried out by the IAS in November 2021 and covering all EUSPA auditable entities. A brief overview is offered later on in this document.

2.7.2 European Court of Auditors (ECA)

The European Court of Auditors (ECA) report 2021 (on 2020 activity) concluded that the accounts were free from material misstatement and that the transactions were legal and regular. There were no new observations for 2020.

2.8 Follow up of recommendations and action plans for audits

The status of the observations made by the European Court of Auditors in previous years was considered to be ongoing or completed. Please find in the table below the updated status of observations from the European Court of Auditors.

Year	Court's observations	Status
2014	There is no insurance coverage for fixed tangible assets	Completed.

2017	E-procurement: by the end of 2019, the Agency was not using any of the e-procurement IT tools developed by the Commission	Completed.
2019	Delays in the implementation of the GSA's Internal control framework	Completed (May 2020)
2019	No comprehensive ex-ante or ex-post strategy in place to confirm the accuracy of costs reported by ESA	Ongoing. Ex-ante strategy further developed and discussed with the Court, ex-post audit of ESA costs implemented in June 2021. Awaiting final opinion of ECA on whether this observation can be formally closed.

With respect to the IAS audit in 2019 on “*Exploitation of EGNOS*”, the Agency implemented half of the recommendations in 2020 and the rest being worked on until mid-2021 since the foreseeable transformation of GSA into EUSPA impacted the outcome expected from the implementation of such pending recommendations. The implementation of the IAS recommendations on EGNOS is closed pending final formal review by IAS.

Implementation of the IAS audit on Galileo Exploitation is progressing at good pace with two thirds of the actions already implemented.

2.9 Follow up of recommendations from the discharge authority

The European Parliament as discharge authority granted to the Executive Director of the European Union Agency for the Space Programme discharge in respect of the implementation of the Agency's budget for the financial year 2020. The discharge authority approved the closure of the GSA accounts for the financial year 2020 and set out its observations in a resolution. The resolution covering Budget and financial management, Performance, Staff policy, Procurement, Prevention and management of conflicts of interest and

transparency, Internal control, and COVID-19 response and business continuity, along with other observations of a cross-cutting nature, accompany this positive decision on discharge.

The discharge for 2021 is in progress.

2.10 External Evaluations

No external evaluations were carried out by the Agency on its own operations.

3. Assessment of the Effectiveness of the Internal Control Systems

3.1 Risk management

In 2021 the Agency undertook risk assessment and monitoring activities at the corporate, operational and support department levels. The outcomes of operational risk assessments are shared with management and reported directly to the EC for information and/or further consolidation and reporting at the respective programme level.

In 2021, the top corporate risks at EUSPA were:

Risk ID	Risk Title
RSK#022	Rate of alignment of CA numbers with legislative financial statement
RSK#006	Achievement of Full Services
RSK#016	Lack of robustness and resiliency in the EUSPA corporate ICT system
RSK#017	COVID-19 disruption to continuity of business-critical activities
RSK#014	Access to EUCI
RSK#019	Lack of offsite storage capacity for classified backup tapes
RSK#021	Agency Facilities
RSK#018	EUSPA's involvement with CASSINI
RSK#020	Implementation of establishment plan

Each risk has an identified and adopted mitigation action plan. Corporate Risk Management Boards take place on a quarterly basis.

3.2 Compliance and effectiveness of Internal Control Framework (ICF)

The Agency implements and continually improves its Integrated Management System (IMS) that is documented and applied. The IMS is established in order to enable EUSPA to achieve its Quality Objectives related to the organisation and efficiency of processes and services. EUSPA was successfully re-certified according to the latest version of the ISO 9001 standard on October 2020. The management of information security risks in line with ISO 27001 requirements. The Quality Objectives are closely aligned with the EUSPA

mission statement and its corporate values. All activities and all current locations are covered under ISO standards.

With the EUSPA Work Breakdown Structure (WBS) an agency-wide approach is applied towards the management of processes, in a common format across all departments. The work undertaken by EUSPA is allocated into separate work package descriptions (WPDs) that enable a better planning and control of activities. This structure is then utilised in reporting, allocation of resources and auditing. A link has been established to cross-reference the WBS with staff annual objectives.

An ongoing restructuring will affect both IMS and WBS seeking simplification and better alignment to the Agency's new scope.

No formal assessment was executed in 2021 (for 2020). However the following table lists the prospective IAS audit topics identified for EUSPA. Based on the results of the risk assessment and considering the **overall risk profile of EUSPA of 4** (on a scale from 1 to 5), the IAS intends to perform four audit engagements in the next audit cycle. IAS is therefore confirming the high-risk profile of EUSPA, already identified by ECA a few years ago. The next in-depth risk assessment is planned for 2025.

Prospective IAS audit topics (2022-2023)	
Audit	<ol style="list-style-type: none"> 1. Recourse to structural service providers 2. Human Resources Management 3. Contract implementation 4. IT security and disaster recovery
Follow-up	<ul style="list-style-type: none"> - Continuous desk review of the recommendations reported as implemented - On-the-spot follow up as required

3.3 Cost and benefits of controls

Agency resources directly allocated to internal audit and control are one FTE as Internal Control Coordinator, reporting directly to the Executive Director, and 8+ weeks per year for the Internal Audit Capability (IAC), a

resource shared with the European Agency ECHA, whose activity was enhanced under a new Service Level Agreement (SLA) signed in 2021.

Aside from IAC, the Agency is annually audited by European Court of Auditors (ECA), the EC Internal Audit Service (IAS), DG DEFIS internal auditors (on DA activity), and through external audits including on the accounts of the Agency and on the use of delegated funds. Moreover the Agency is periodically subject to transversal audits on specific policy evaluation or EC processes affecting several EU services (agencies and/or EC) carried out by both ECA and IAS, for example the field work conducted by ECA in 2020 with the Agency concerning EU space assets. Globally the Agency's activities are heavily audited, but this also reflects the high level of budget managed by the Agency.

It is also noted that 2021 is a year of transition in the implementation of the enhanced scope for the Agency, with it undergoing transformation into EUSPA, due to a significant expansion of operational responsibilities. Work has started on ensuring that control activities are also amended to reflect this significant change. As part of this effort, its Internal Control Framework (ICF) was approved in January 2021. The implementation of the EUSPA ICF will take place start in 2022 embracing EUSPA news responsibilities.

This challenging and evolving situation is reflected in the recent IAS Risk Assessment, briefly described in section 3.2 that focusses IAS attention on major horizontal assignments, and departing from their traditional support or horizontal departmental approach.

EUSPA is now actively following the Coordination of Agencies' discussions on the Cost of Controls calculation methodology for EU Agencies in order to implement it when available.

3.4 Statements of the Managers in charge of risk management and internal control¹⁶

The responsibility for the completeness and reliability of management reporting and control is split at EUSPA, therefore separate declarations are made accordingly:

On behalf of the manager in charge of internal control, the EUSPA ICC states the following:

'I declare that in accordance with the GSA's communication on the internal control framework¹⁷, I have reported my advice and recommendations on the overall state of internal control in the Agency to the Executive Director.'

'I hereby certify that the information provided in the corresponding Section of the present Annual Activity Report and in its annexes is, to the best of my knowledge, accurate, reliable and complete.'



Fernando Navarro Torne,
Internal Control Coordinator
Prague, 20 June 2022

For the manager taking responsibility for risk management:

'I hereby certify that the information provided in the corresponding Section of the present Annual Activity Report and in its annexes is, to the best of my knowledge, accurate, reliable and complete.'



Omar I. Valdés Solórzano,
Corporate Quality and Risks & Opportunities Officer
Prague, 20 June 2022

¹⁶ As defined in GSA Internal Control Framework, January 2021.

¹⁷ Internal Control Framework of the Commission, Ref. Ares (2017) 3293999 – 30/06/2017, and GSA Internal Control Framework January 2021.

4. Management Assurance

4.1 Review of the elements supporting assurance

4.1.1 Follow-up of reservations from previous years

The declaration of assurance of the Authorising Officer in the Annual Activity Report 2020 did not contain any reservations.

4.2 Reservations

Find below weaknesses identified, with no current financial impact in 2021 and therefore purely reputational reservations at this point:

Interruption in the use of Soyuz launchers for Galileo satellites

Launches of Galileo satellites have historically relied on the use of the Russian Soyuz launcher for a significant number of launches, to maintain the launch schedule established for the programme. Following the invasion of Ukraine and the unilateral withdrawal of the Russian Soyuz launcher team by ROSCOSMOS, the future use of the Soyuz platform has been put on hold and EUSPA, ESA and EC are actively investigating alternatives to maintaining the launch schedule without reliance on the Russian launcher. Galileo nevertheless remains as operational and as functional as previously and there is no impact on services recalling that future launches, financed through funds delegated by the European Commission, are planned in particular for enhancing redundancy and progressive improvements of the system, as part of a standard lifecycle.

Accordingly, EUSPA does not envisage any direct, immediate impact on the financial performance of the Agency, but recognises that intensive work is required to minimise the risk of delays in the launch of new satellites which could then lead to delays in expense recognition and the clearing of receivable assets paid in the form of pre-financing. This amount cannot be reliably estimated at this point.

Disruption of work carried out in Ukraine in setting-up EGNOS RIMS ground stations in Kyiv and Kharkiv

As part of the investments in the ground infrastructure for the EGNOS system, EUSPA has financed through funds delegated by the European Commission stations in Kyiv Sikorsky International Airport and Kharkiv International Airport with the aim of increasing the robustness of the EGNOS system. In particular the financing has been used for equipment set-up on the grounds of the Kyiv International Airport and the assessment and planning for a second location on the grounds of Kharkiv International Airport.

As of the start of the Russian invasion of Ukraine, all work on these locations has been halted until further notice. The Agency has taken the steps it could to protect the equipment already installed as far as possible but its exact condition is not currently known.

The issues expressed do not have any impact on the functioning of the EGNOS system and its services today and therefore there is no major direct, immediate or long-term impact on the Agency's financial statements and it is noted that:

- The physical assets purchased for the Kyiv station are assets of the EU represented by the European Commission, not of EUSPA;
- All work carried out until the invasion, was done so in line with contractual agreements and expensed to the EUSPA appropriately without issue, therefore no recovery or blocking of payments is due;
- Cessation of the services occurred under Force Majeure and therefore no provisions, penalties or liabilities are considered by the Agency, given the contractor had no control over the events which occurred;
- The work on the Kharkiv station has so far not entered the implementation phase and the envisioned work and purchase of equipment has currently been put on hold without any further financial or operational implications to EUSPA.

4.3 Overall conclusions on assurance

The Agency provided assurance in 2021 to DG DEFIS on the use of the budget delegated to it by the EC. This provided reasonable assurance concerning the legality and regularity of the financial operations and included the sound financial management of delegated funds. No critical shortfalls or weaknesses were identified.

The Agency continued to manage a large number of delegated appropriations by the EC during 2021. The EUSPA monitored the evolution of these operations, in close cooperation with the EC, and reported on all advances as required by the respective Delegation Agreements and new Contribution Agreements. Financial

resources were properly managed and key financial indicators were shared and reported to the EC. Auditors made no major observations in this respect.

The degree of implementation and effectiveness of the ICF will be assessed in an upcoming Management Survey 2021, on the basis of the IAS SIAP assessment.

On 2 May 2022, the Parliament granted the discharge in respect of the implementation of the Agency's budget for the financial year 2020 to the Executive Director for 2020 accounts, and is pending for 2021.

5. Declaration of assurance¹⁸

I, the undersigned, Rodrigo da Costa

Executive Director of the European Union Agency for the Space Programme,

In my capacity as Authorising Officer,

- Declare that the information contained in this report gives a true and fair view.¹⁹
- State that I have reasonable assurance that the resources assigned to the activities described in this report have been used for their intended purpose and in accordance with the principles of sound financial management, and that the control procedures put in place give the necessary guarantees concerning the legality and regularity of the underlying transactions.
- This reasonable assurance is based on my own judgement and on the information at my disposal, such as the results of the self-assessment, ex-post controls, the work of the Internal Audit Capability, the observations of the Internal Audit Service and the lessons learnt from the reports of the Court of Auditors for years prior to the year of this declaration.
- Confirm that I am not aware of anything not reported here which could harm the interests of the Agency.

Prague, 20 June 2022



¹⁸ As defined in GSA Internal Control Framework, January 2021.

¹⁹ True and fair in this context means a reliable, complete and correct view on the state of affairs in the service.

Annexes

Annex I – Core business statistics

The measurement of core business activities and the related KPIs are listed in section 1.

The Agency wishes to note that section 1.7 refers to tasks that are entrusted by the EC. These tasks are clearly defined together with their KPIs in the relative contribution agreement.

Annex II – Statistics on financial management

II.1 - Rate and type of implementation of appropriations

Budget line	Heading	Commitment Appropriations Budgeted 2021	Commitment Appropriations			
			Executed in 2021	%	Uncommitted	%
Title 1 - Staff expenditure						
1100	Staff expenditure	21 940 445,07	21 940 445,07	100%	0	0%
1200	Recruitment costs	96 561,84	96 561,84	100%	0	0%
1210	Medical services	88 395,18	88 395,18	100%	0	0%
1300	Missions and travel	550 066,00	550 066,00	100%	0	0%
1400	Training expenditure	645 640,00	645 640,00	100%	0	0%
1500	Social measures	352 735,10	352 735,10	100%	0	0%
1600	Interims & Trainees	1 014 100,00	1 014 100,00	100%	0	0%
1700	Representation expenditure	0,00	0,00	100%	0	0%
1800	Tuition fees	2 130 788,43	2 130 788,43	100%	0	0%
	Total for title 1	26 818 731,62	26 818 731,62	100%	0	0%
Title 2 - Administrative expenditure						
2000	Rental of buildings	3 106 911,53	3 106 911,53	100%	0	0%
2100	Data processing	5 077 585,32	5 077 585,32	100%	0	0%
2200	Movable property	410 176,54	410 176,54	100%	0	0%
2300	Current administrative costs	1 967 562,41	1 967 562,41	100%	0	0%
2400	Postage and telecommunication costs	105 333,48	105 333,48	100%	0	0%

Budget line	Heading	Commitment Appropriations Budgeted 2021	Commitment Appropriations			
			Executed in 2021	%	Uncommitted	%
2500	Meetings	19 151,00	19 151,00	100%	0	0%
2600	SAB administrative expenditure	170 564,00	170 564,00	100%	0	0%
	Total for title 2	10 857 284,28	10 857 284,28	100%	0	0%
	Total for titles 1 and 2	37 676 015,90	37 676 015,90	100%	0	0%
Title 3 - Operational expenditure						
3100	Expenditure on studies	18 661 492,43	18 661 492,43	100%	0	0%
3300	SAB operational expenditure	792 706,84	792 706,84	100%	0	0%
	Total for title 3	19 454 199,27	19 454 199,27	100%	0	0%
	TOTAL Title 1+Title 2+Title 3	57 130 215,17	57 130 215,17	100%	0	0%

Budget line	Heading	Payment Appropriations Budgeted 2021	Payment Appropriations					
			Paid in 2021	%	Carried Forward	%	Total Executed	%
Title 1 - Staff expenditure								
1100	Staff expenditure	21 940 445,07	21 940 445,07	100%	0,00	0%	21 940 445,07	100%
1200	Recruitment costs	96 561,84	83 061,84	86%	13 500,00	14%	96 561,84	100%
1210	Medical services	88 395,18	25 753,78	29%	62 641,40	71%	88 395,18	100%

Budget line	Heading	Payment Appropriations Budgeted 2021	Payment Appropriations					
			Paid in 2021	%	Carried Forward	%	Total Executed	%
1300	Missions and travel	550 066,00	470 525,71	86%	79 540,29	14%	550 066,00	100%
1400	Training expenditure	645 640,00	183 538,23	28%	462 101,77	72%	645 640,00	100%
1500	Social measures	352 735,10	289 989,08	82%	62 746,02	18%	352 735,10	100%
1600	Interims & Trainees	1 014 100,00	543 340,94	54%	470 759,06	46%	1 014 100,00	100%
1700	Representation expenditure	0,00	0,00	0%	0,00	0%	0,00	0%
1800	Tuition fees	2 130 788,43	1 865 897,22	88%	264 891,21	12%	2 130 788,43	100%
	Total for title 1	26 818 731,62	25 402 551,87	95%	1 416 179,75	5%	26 818 731,62	100%
Title 2 - Administrative expenditure								
2000	Rental of buildings	3 106 911,53	1 359 719,72	44%	1 747 191,81	56%	3 106 911,53	100%
2100	Data processing	5 077 585,32	1 157 964,91	23%	3 919 620,41	77%	5 077 585,32	100%
2200	Movable property	410 176,54	14 978,00	4%	395 198,54	96%	410 176,54	100%
2300	Current administrative costs	1 967 562,41	772 105,12	39%	1 195 457,29	61%	1 967 562,41	100%
2400	Postage and telecommunication costs	105 333,48	49 852,68	47%	55 480,80	53%	105 333,48	100%
2500	Meetings	19 151,00	17 150,83	90%	2 000,17	10%	19 151,00	100%
2600	SAB administrative expenditure	170 564,00	82 526,98	48%	88 037,02	52%	170 564,00	100%
	Total for title 2	10 857 284,28	3 454 298,24	32%	7 402 986,04	68%	10 857 284,28	100%

Budget line	Heading	Payment Appropriations Budgeted 2021	Payment Appropriations					
			Paid in 2021	%	Carried Forward	%	Total Executed	%
	Total for titles 1 and 2	37 676 015,90	28 856 850,11	77%	8 819 165,79	23%	37 676 015,90	100%
	Title 3 - Operational expenditure							
3100	Expenditure on studies	5 177 802,48	3 174 629,19	61%	2 003 173,29	39%	5 177 802,48	100%
3300	SAB operational expenditure	1 290 396,79	980 241,79	76%	310 155,00	24%	1 290 396,79	100%
	Total for title 3	6 468 199,27	4 154 870,98	64%	2 313 328,29	36%	6 468 199,27	100%
	TOTAL Title 1+Title 2+Title 3	44 144 215,17	33 011 721,09	75%	11 132 494,08	25%	44 144 215,17	100%

II.2 – Information on transfers and amended budgets

The Agency's draft budget 2021 was approved by the Administrative board on 29 January 2020 for a total amount of EUR 72 986 002 and became the initial 2021 budget upon adoption of 2021 EU budget by the Council and European Parliament. The Agency's Administrative Board approved 2021 amending budget number 1 on 28 January 2021 reducing the overall appropriations by 35 977 629,55 EUR bringing the budget to the amount of 37 008 372,45 EUR.

The amending budget no. 2 approved on 17 June 2021 increased the overall budget, reflecting the additional tasks of the Agency and an additional 41 TA posts approved for the Agency. Commitment appropriations were increased by 20 067 993 EUR bringing it to the amount of 57 076 365,45 EUR. Payment appropriations were increased by 12 718 370 EUR bringing it to the amount of 49 726 742,45 EUR. The Agency's Administrative Board approved the amending budget no. 3 on 1 October 2021 increasing commitment appropriations by 53 849,72 EUR in order to align with the final amount of EFTA contribution received. Payment appropriations were further decreased by 5 582 527,28 EUR. The delayed adoption of the 2021 Amended Single Programming Document resulted in the majority of operational contracts being signed at the end of the year and therefore less payment appropriations under Title 3 were needed. The final budget reached the amount of 57 130 215,17 EUR in commitment appropriations and 44 144 215,17 EUR in payment appropriations.

Seven internal transfers were processed in 2021, all of them authorised by the Executive Director as they concerned transfers of amounts either within Titles or below 10% between Titles.

II.3 – Information on interest charged through late payments

Interest on late payment totalling 22 684,94 EUR was paid in 2021 (EUR 13 602,75 in 2020).

II.4 – Summary information on budgetary operations

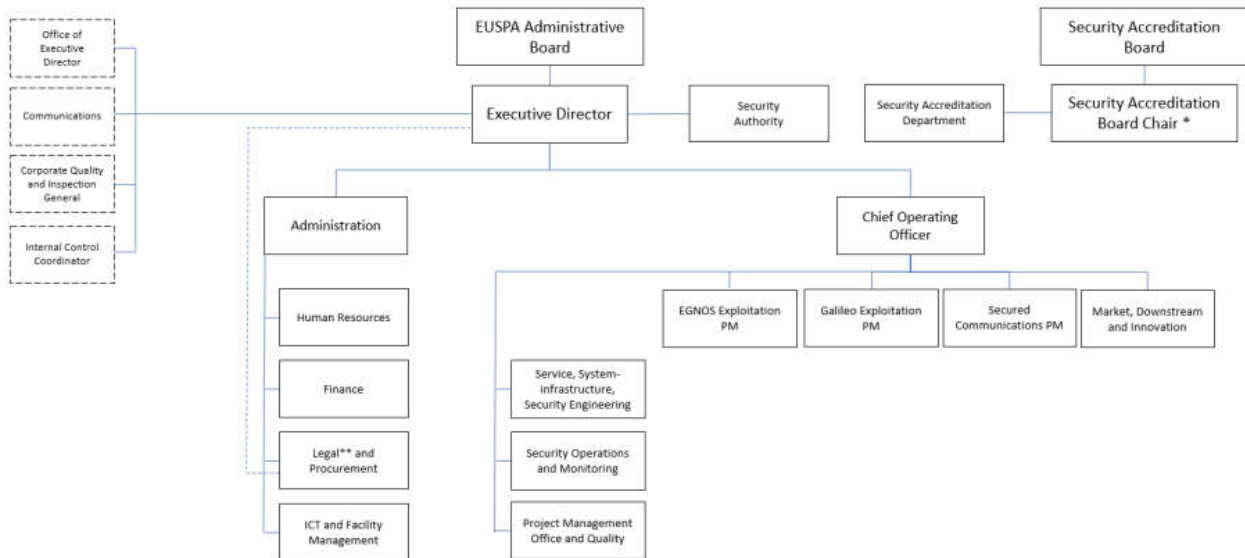
Budget execution for the year was 100% in commitment appropriations and 100% in 2021 payment appropriations when taking into account the non-automatic carry-forward needed to maintain the Agency's payment capacity on existing legal obligations.

Average payment time was 18,1 days, well below the 30-day EC benchmark and 20-day target (14,26 days in 2020). It should be noted that, due to the nature of the Agency's activities, many of the Agency's contracts and grants have payment deadlines of 60 and 90 days and that the average payment time also includes these

payments. The Agency processed 4 067 financial transactions (3 785 transactions in 2020), which represents an increase of 7% even during the continuing COVID-19 pandemic, which significantly decreased the number of mission orders.

The Agency continued to manage a large amount of delegated budget in 2021. A total of 6,362 billion EUR was committed under delegated budget in 2021 and 1,575 billion EUR made in payments.

Annex III – EUSPA Organisation Chart (in force as of 27 October 2021)



* In close cooperation with EUSPA ED in accordance with the Space Regulation Art 79

** Legal and procurement advise to the ED

Annex IV – Establishment Plan

The Agency's Establishment Plan for 2021 was as follows:

Category and grade	Establishment plan in EU Budget 2021		Modifications in 2021 in application of flexibility rule ²⁰	
	Officials	TA	Officials	TA
Administrator (AD) 16				
AD 15				
AD 14		1		
AD 13		5		
AD 12		10		
AD 11		12		
AD 10		21		
AD 9		36		
AD 8		55		
AD 7		34		
AD 6		8		
AD 5		7		
Total AD		189		
Assistant (AST) 11				
AST 10				
AST 9				
AST 8				
AST 7		1		
AST 6		1		
AST 5				
AST 4				
AST 3				
AST 2				
AST 1				
Total AST		2		
AST/SC 6				

²⁰ In line with Article 38 (1) of the Commission Delegated Regulation 2019/715, the management board may modify, under certain conditions, the establishment plan by in principle up to 10% of posts authorised, unless the financial rules of the body concerned allows for a different percentage rate.

Category and grade	Establishment plan in EU Budget 2021		Modifications in 2021 in application of flexibility rule ²⁰	
	Officials	TA	Officials	TA
AST/SC5				
AST/SC4				
AST/SC3				
AST/SC2				
AST/SC1				
Total AST/SC				
TOTAL				
Total AST				
AST/SC 6				
AST/SC5				
AST/SC4				
AST/SC3				
AST/SC2				
AST/SC1				
Total AST/SC				
TOTAL		191		

Information on entry level grades for posts

The established recruitment grades for all selection procedures (external, inter-agency and/or internal) for the key functions of temporary agents are listed in the table below, which is based on the GSA decision of 28 June 2019 on types of post and post titles in the European GNSS Agency GSA-AB-56-19-06-06:

Type of post	Function group / Grade	Post title
Head of Unit or equivalent	AD 9 – AD 11 (exceptionally AD 12)	Head of Unit Head of Department Head of Task Force
Administrator	AD 5 – AD 8	Post titles established in the Agency to perform administrator functions: e.g. Engineer, Senior Engineer, Officer

Assistant	AST 1 – AST 4	Assistant, Project Assistant
Secretary/Clerk (not foreseen at the moment)	SC 1 – SC 6	Secretary/Clerk

The below chart shows the grading information for contract agents:

Type of Post	Minimum Entry Recruitment Grade	Highest grade possible	Post Title
Administrator, Advisor and equivalent Technical Officer	CA FG IV/16	CA FG IV/18	Senior Technical Officer* Senior Administrator Senior Project Officer Team Leader
Administrator, Advisor and equivalent Technical Officer	CA FG IV/14	CA FG IV/18	Technical Officer* Administrator Project Officer Team Leader
Administrator, Advisor and equivalent Technical Officer	CA FG IV/13	CA FG IV/18	Junior Technical Officer* Junior Administrator*
Executive and Technical Support	CA FG III/8	CA FG III/12	Executive Assistant Project Support Officer Technical Expert
Clerical and Secretarial Support	CA FG II/4	CA FG II/7	Secretary / Clerk
Basic Support	CA FG I/1	CA FG I/3	Manual and Administrative Support Service Clerk

Annex V – Human and financial resources by activity

The 2021 distribution of staff was as follows, split by areas of activity:

	Allocated on 31 Dec 2021 ²¹	
	TA	CA, SNE
Security accreditation tasks	12.8	9.4
PRS core activities	1.5	0.4
GSMC operations and preparation	27.2	21.7
Communication, promotion and marketing of the services	16.6	4.8
Agency management	30.8	15.1
EGNSS Exploitation	74.9	7.5
EGNSS core operational security	10.9	0.5
GOVSATCOM	5.7	1.2
Research & Development activities	10.6	2.4
Total	191	63

The financial resources, split by area of activity are:

		Commitments in 2021 (EUR)
Core tasks	Security accreditation	792 706,84
	Security and PRS tasks	12 104 036,40
	GSMC operations	2 208 392,00
	Promotion and marketing of the services	4 349 064,03
	General Administration and Agency Management	37 676 015,90
Delegated tasks	EGNOS Exploitation	822 117 712,36
	Galileo Exploitation	5 531 881 548,63
	Research & Development (H2020)	3 962 893,58
	GOVSATCOM	3 142 964,00
	Copernicus	600 000,00
Total		6 418 835 333,74

²¹ Including 22 accepted offers for TA positions.

Annex VI – Contribution, grant and service level agreements. Financial Framework Partnership Agreements

Actual state of play of implementation

	General information					Financial and HR impact				
	Date of signature	Total amount	Duration	Counterpart	Short description		2020	2021		
Grant agreements										
1. GOVSATCOM ENTRUSTED	21/08/2020	2 999 940€	30 months	GSA as coordinator of the consortium	Creation of a coordination relationship scheme between potential governmental secure SatCom users	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							2 999 940	2 109 330	2 999 940	2 109 330
						Number of CA				
						Number of SNEs				
Total grant agreements						Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							2 999 940	2 109 330.00	2 999 940	2 109 330
						Number of CA				

						Number of SNEs					
Delegation/Contribution agreements											
1. 7th framework programme - 3rd call	01/04/2011	31 200 000 €	84 months	European Commission	Implementation of the FP7, sub-theme Galileo by GSA – 3 rd call	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA	
							1 419 030,18	0	1 419 030,18	0	
						Number of CA					
2. PRS	09/09/2011	11 600 000 €	Until 31/12/2021 (originally 60 months)	European Commission	Delegation Agreement between the European Union and the European GNSS Agency on the development of a standalone first generation PRS receiver within the frame of the PRS pilot project and the implementation of the preparatory activities related to the setting up of the Galileo Security Monitoring Centre	Number of SNEs					
3. EGNOS DA	16/04/2014	1 514 000 000 €		European Commission	Delegation Agreement between the European Union and the	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA	
							837 246 416,36	412 825 281,84	509 255 835,22	113 104 911,60	

			Until 31/12/20 22		European GNSS Agency on the exploitation of the EGNOS Programme	Number of CA				
						Number of SNEs				
4. EGNOS CA	22/06/2021	1 400 000 000 €	Until 31/12/20 27	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							N/A	N/A	475 252 406,30	73 000 000,00
						Number of CA				
						Number of SNEs				
5. GALILEO DA	02/10/2014	2 940 000 000 €	Until 31/12/20 21	European Commission	Delegation Agreement between the European Union and the European GNSS Agency on the exploitation of the Galileo Programme	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							1 317 922 948,84	1 099 967 548,14	921 220 992,38	429 769 143,10
						Number of CA				
						Number of SNEs				
6. GALILEO CA						Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA

	02/06/2021	7 100 000 €	Until 31/12/20 27	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)		N/A	N/A	5 018 649 595.38	946 655 484,94
						Number of CA				
						Number of SNEs				
7. H2020	11/04/2014	173 250 000 €	120 months	European Commission	The implementation of calls of Horizon 2020 - framework programme for research and innovation	Amount	Cumulative CA 51 713 128,34	Cumulative PA 24 151 337,27	Cumulative CA 30 210 056,62	Cumulative PA 9 825 726,16
						Number of CA				
						Number of SNEs				
8. Horizon Europe	22/06/2021	304 900 000 €	Until 31/12/20 27	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and	Amount	Cumulative CA N/A	Cumulative PA N/A	Cumulative CA 0	Cumulative PA 0
						Number of CA				
						Number of SNEs				

					Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)					
9. Copernicus	22/06/2021	30 000 000 €	Until 31/12/2027	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							N/A	N/A	600 000,00	0
						Number of CA				
						Number of SNEs				
10. Contribution agreement on GOVSATCOM preparatory action	07/04/2020	4 500 000 €	33 months	European Commission	Actions for the preparation of GOVSATCOM	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							4 500 000	1 200 000	643 776,00	357 628,20
						Number of CA				
						Number of SNEs				
11. GOVSATCOM						Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA

	22/06/2021	165 000 000 €	Until 31/12/20 27	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)		N/A	N/A	0	0
						Number of CA				
						Number of SNEs				
12. SSA	22/06/2021	1 600 000 €	Until 31/12/20 27	European Commission	Contribution Agreement between the European Commission, representing the European Union, and the EUSPA on the implementation of the Union Space Programme and Horizon Europe (pillar ii, cluster 'digital, industry and space', space section) under the Financial Framework Partnership Agreement (FFPA)	Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
							N/A	N/A	0	0
						Number of CA				
						Number of SNEs				
						Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA

12. Application	Galileo	21/12/2021	500 000 €	24 months from 15/10/2021	European Commission	EUROPEAN UNION European Union Contribution Agreement - EUSPA MOVE/DDG2.C/SUB/2021-543/SI2.864105		N/A	N/A	0	0
Total delegation/contribution agreements							Number of CA				
							Number of SNEs				
							Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
								2 215 933 712,60	1 541 171 868,75	6,957,937,872.58	1,572,834,069.00
TOTAL							Number of CA				
							Number of SNEs				
							Amount	Cumulative CA	Cumulative PA	Cumulative CA	Cumulative PA
								2 218 933 652,60	1 543 281 198,75	6 960 937 812,58	1 574 943 399,00

Annex VII – Environment management

The Agency received, from DG DEFIS, a request to collect the information necessary to evaluate the environmental impact of the Programmes and to be able to set a baseline footprint. The Agency collected and forwarded information related to majority of sites as follows:

- Annual electricity power consumption (in kWh for primary and final energy consumption);
- Annual fuel consumption and type of fuel;
- Annual consumption for heating purposes and source of energy used;
- Heating and cooling degree days per year;
- The surface of the sites (indoor and total in m²) and the staff (FTE) per site;
- Energy mix if known;
- CO₂ emission related to energy consumption (electricity, fuel, gas) if known;

The Agency is now in contact with several subjects within interinstitutional EMAS exchange. Internally, the Agency is aware of the importance of the topic and the beginning of the initial discussions about the organisation and responsibilities is imminent. The EMAS certification might not be achieved for some time, due to several relocations planned for the Agency sites in the coming three years. Nevertheless, the Agency will at least aim to adopt the environmental policy and processes.

In the meantime, the Agency continues in its environmental approach (paperless administration when possible, videoconferencing, full recycling, reduction of plastic waste, etc.). Also, for new buildings, both in planning and construction, the Agency requested an upper scale environmental grading.

Annex VIII - Draft Annual Accounts and Financial Reports

The Provisional Annual Accounts for the reporting period were prepared and sent to the EC and the discharge authorities in accordance with the provisions of the Financial Regulation.

In Q1 2022, the Court of Auditors will audit these Accounts. After their final remarks, the Agency will submit the 2021 Final Annual Accounts to its Administrative Board for adoption in June 2022. Once approved by the Administrative Board, the Agency will annex these to this report for reference.

Annex IX – Specific Annexes related to part 2

IX.1 EUSPA Legal Framework (as of 31 December 2021)

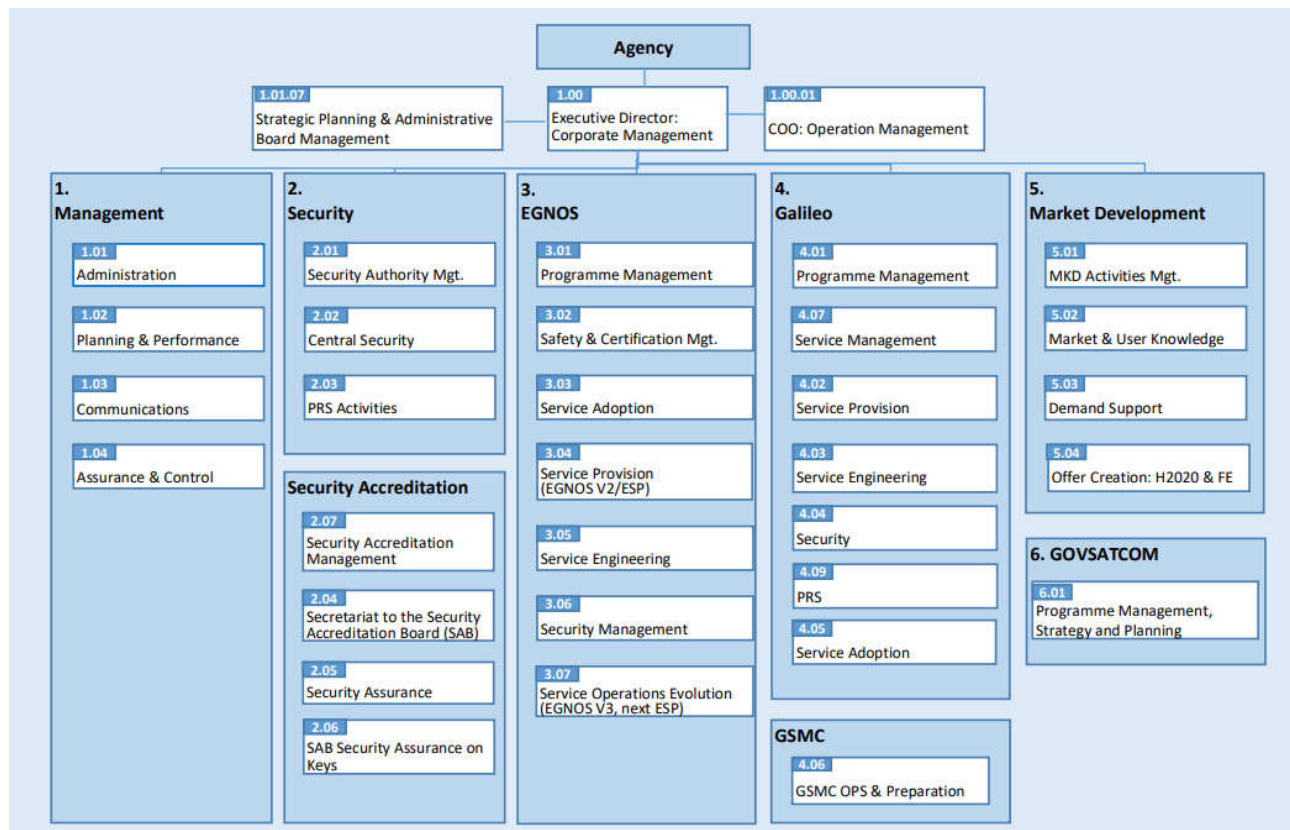
Document	Ref.	Issue - Date
Regulation (EU) 2021/696 of the European Parliament and of the Council of 28 April 2021 establishing the Union Space Programme and the European Union Agency for the Space Programme and repealing Regulations (EU) No 912/2010, (EU) No 1285/2013 and (EU) No 377/2014 and Decision No 541/2014/EU.	2021/696	28 April 2021
Commission Decision (EU, Euratom) 2015/444 of 13 March 2015 on the security rules for protecting EU classified information	2015/444	13 March 2015
Decision No 1104/2011/EU of the European Parliament and of the Council of 25 October 2011 on the rules for access to the Public Regulated Service provided by the Global Navigation Satellite System established under the Galileo programme	1104/2011 (enforced on 5/11/2011)	25 Oct 2011
Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012	2018/1046	18 July 2018
Decision of the Administrative Board adopting the GSA Financial Regulation	WP 69	16 August 2019
Regulation No 31 (EEC), 11 (EAEC), laying down the Staff Regulations of Officials and the Conditions of Employment of Other Servants of the European Economic Community and the European Atomic Energy Community as subsequently amended	Staff Regulations	14 June 1962

Annex X – Specific annexes related to part 3

There are no annexes to part 3 for the reporting period, as key information is summarised in the corresponding section of this report.

Annex XI – The Work Breakdown Structure

The WBS used as a reference for the Single Programming 2021-2023 and therefore the Consolidated Annual Activity Report 2021 is shown below. The structure was updated in the course of the year to take into account its further development and changes in the Agency's activities that will be reflected in the following programming documents.



Annex XII - List of acronyms

Abbreviation	Definition
AD	Administrator
ANSP	Air Navigation Service Providers
APV	Approach Procedure with Vertical Guidance
ARB	Anomaly Review Board
AST	Assistant
ATO	pre-Approval To Operate
BC	Business Continuity
CA	Contract Agent
CCB	Change Control Board
CDA	Crypto-Distribution Authority
CFSP	Common Foreign and Security Policy
CLGE	Council of European Geodetic Surveyors
CMS	Common Minimum Standards
COMSEC	Communication Security
CPA	Competent PRS Authority
CS	Commercial Service
DG DEFIS	Directorate-General for Defence, Industry and Space
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
EASA	European Aviation Safety Agency
EC	European Commission
ECA	European Court of Auditors
ECM	Enterprise Content Management
EEAS	European External Action Service
EFTA	European Free Trade Association
EGNOS	European Geostationary Navigation Overlay Service
EGNSS	European Global Navigation Satellite System
ELT	Emergency Location Transmitter
EMC	Enhanced Minimum Configuration
ESA	European Space Agency
ESTEC	European Space Research and Technology Centre

Abbreviation	Definition
EU	European Union
EUCI	EU Classified Information
EUPOS	European Position Determination System
EURATOM	The European Atomic Energy Community
EUSPA	European Union Agency for the Space Programme
FE	Fundamental Elements
FFPA	Financial Framework Partnership Agreement
FKC	Flight Key Cell
FLAG	Five Lives Advisory Group
FOC	Full Operational Capability
GAL	Galileo
GCC	Galileo Control Centre
GCC-D	Galileo Control Centre - Germany
GCC-I	Galileo Control Centre - Italy
GCS	Galileo Control Segment
GDDN	Galileo Data Dissemination Network
GEO	Global Earth Observation
GMS	Ground Mission Segment
GNSS	Global Navigation Satellite System
GPS	Global Positioning System (USA)
GRC	Galileo Reference Centre
GRON	Galileo Robust Operational Network
GRUE	GSA EU Restricted Network
GSA	European GNSS Agency
GSAP	GNSS Security Accreditation Panel
GSC	GNSS Service Centre
GSF	Galileo Security Facility
GSMC	Galileo Security Monitoring Centre
GSMC-ES	Galileo Security Monitoring Centre - Spain
GSMC-FR	Galileo Security Monitoring Centre - France
GSOp	Galileo Service Operator
GSS	Galileo Sensor Station

Abbreviation	Definition
H2020	Horizon 2020
HAS	High Accuracy Service
HE	Horizon Europe
HR	Human Resources
IAC	Internal Audit Capability
IALA	International Association of Lighthouses Authorities
IAS	Internal Audit Service
IATO	Approval to Operate
ICS	Internal Control Standards
ICT	Information and Communications Technology
JRC	Joint Research Centre
IMS	Integrated Management System
ISO	International Standards Organisation
IT	Information Technology
ITS	Intelligent Transport Systems
KMP	Key Management Plan
KPI	Key Performance Indicator
LBS	Location-Based Services
LEOP	Launch and Early Operation Phase
L-SMC	LEOP Security Monitoring Cell
LPV	Localiser Performance with Vertical Guidance
M2M	Machine-to-machine
MGF/ULS	Message Generation Facility / Uplink Station
OS	Open Service
OS-NMA	Open Service Message Authentication
PA	Product Assurance
PLB	Personal Locator Beacon
PRS	Public Regulated Service
P3RS-2	PRS Pilot Project 2
QA	Quality Assurance
RIMS	Ranging and Integrity Monitoring Station
RLS	Return Link Service

Abbreviation	Definition
RLSP	Return Link Service Provider
RAMS	Reliability, Availability, Maintainability and Safety
R-UE / UE-R	EU Restricted
SECMON	Security Monitoring
SecOps	Security Operating Procedures
SAA	Security Accreditation Authority
SAB	Security Accreditation Board
SAR	Search And Rescue
SATO	Site Approval To Operate
SB	System Build
SBAS	Satellite Based Augmentation System
SIH	Security Incident Handler
SINA	Secure Inter-Network Architecture
SLA	Service Level Agreement
SNE	Seconded National Expert
SOIF	Security Operational and Intelligence Facility
SPD	Single Programming Document
TA	Temporary Agent
TF	Task Force
UCP	User Consultation Platform
WBS	Work Breakdown Structure
WG	Working Group
WP	Work Package

